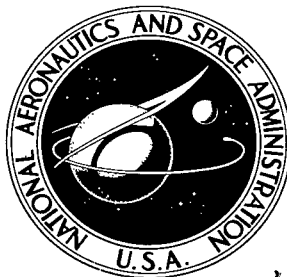


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THREE-DIMENSIONAL FLOW OF IDEAL GAS PAST SMOOTH BODIES

by K. I. Babenko, et al.

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Moscow, 1964



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THREE-DIMENSIONAL FLOW OF IDEAL GAS PAST SMOOTH BODIES

By K. I. Babenko, G. P. Voskresenskiy, A. N. Lyubimov,
and V. V. Rusanov

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ANNOTATION

The book is devoted to an urgent problem of modern gasdynamics--the computation of the flow field near a smooth body situated in an arbitrary manner with respect to the incident airflow. The book presents the results of investigations performed over a period of several years by a group of authors associated with the development and practical application of the method of finite differences to the solution of three-dimensional problems of gasdynamics by electronic digital computer.

The first chapter presents in detail the method of the three-dimensional flow around tapered bodies in a supersonic flow. A series of sections in the first chapter presents the theoretical investigation of the system of finite difference equations carried out in the general form, taking into account the application of the method to other problems of mechanics and mathematical physics.

The second chapter presents the results of calculations for the nonaxisymmetric flow around several bodies of revolution with and without account of chemical reaction in the flow.

The third chapter contains tables for the nonaxisymmetric flow of circular cones in a wide range of Mach numbers, half cone angles, and angles of attack. The tables present exhaustive information concerning the gasflow and are convenient for practical applications.

The book is designed for scientific workers and engineers concerned with mathematical computations and computer programing, the aerodynamic design of flight craft and theoretical gasdynamics. The book may also be of use to teachers and students of upper classes in universities specializing in these fields.

USSR Academy of Sciences
V. A. Steklov Mathematical Institute

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FOREWORD

The present work is devoted to one of the most urgent problems of gas- 5 dynamics--the computation of the three-dimensional flow field near a smooth body arbitrarily placed with respect to the incident supersonic airflow. From the mathematical standpoint, the problem is reduced to the solution of a boundary value problem for a system of nonlinear equations with partial derivatives containing three independent variables.

All classical analytical methods existing to date for solving gasdynamics problems are based on the introduction of a series of simplifying assumptions making it possible to obtain the solution in explicit form. These simplifying assumptions are not always justified and the error introduced by them cannot as a rule be determined. This method cannot be used to find the solution of a three-dimensional problem in explicit form and it is possible only to simplify such a problem. The numerical methods are free of these shortcomings and their practical application has become possible since the invention of electronic computers. The numerical methods make it possible to obtain the solution of the complete equations of gasdynamics with a high degree of accuracy determined by the physical formulation of the problem.

Work has been proceeding for several years at the V. A. Steklov Mathematical Institute of the USSR Academy of Sciences under the direction of Professor K. I. Babenko to apply the method of finite differences for the solution of three-dimensional problems of gasdynamics by electronic computers. Below we present results associated with one stage of this work and pertaining to flow around pointed bodies.

The first chapter describes the method of computing the flow of an ideal gas around an arbitrary smooth body. We use the term "ideal gas" to signify a mixture of gases (for example, air) in which chemical reactions between the components as well as ionization reaction are possible. We neglect viscosity, heat transfer and diffusion.

The second chapter presents the results of calculations relative to the nonaxisymmetric flows around several bodies of revolution with and without considering chemical reactions.

Chapter 3 contains tables for nonaxisymmetric flow around circular cones with a gas having a constant ratio of specific heats $k = 1.4$ in a wide range of half cone angles and angles of attack for Mach numbers from 2 to 7.

Although the present work is concerned with a specific problem, it does contain a series of factors of general significance, and the method it proposes may be applied to the solution of other problems. In this connection

we should bear in mind that the development of a numerical algorithm is not an entirely trivial matter and does not involve merely the replacement of the differential operator by the differences. To construct a numerical algorithm it is first necessary to formulate precisely the mathematical problem, so that it is equivalent to the given physical problem. Also, the algorithm which makes it possible to carry out the correct calculations must satisfy a series of requirements not always easily achieved for each specific situation. Therefore, in formulating the difference system it is necessary to have a deep understanding of the reasons behind these requirements, in addition to having considerable ingenuity.

With the above in mind, the authors have considered it expedient to supplement the presentation of the algorithm with a series of investigations relative to its formation which have been carried out in the general form, taking into account the possible application of the method to other problems.

In conclusion we note that of the various numerical methods in hydrodynamics the difference methods have been developed most (these methods in particular include the method of characteristics). These methods were quite successful in solving a series of specific problems, although this has not been properly reflected in the published literature. In its application to the computation of three-dimensional flows the present work, we hope, will bridge this gap to some degree and will be of interest to those concerned with computer mathematics, gasdynamics, and the aerodynamic design of flight craft.

The authors wish to express their gratitude to Ye. V. Samuylov for a series of consultations on the thermodynamic properties of air at high temperatures.

The authors are also deeply grateful to E. I. Nazhestkina, who has carried out the programming work.

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The authors request that all criticisms of this work be directed to the following address: Moscow, V-312, Vavilov Street, d.28, Mathematical Institute AN SSSR.

CHAPTER I. METHOD OF COMPUTING THREE-DIMENSIONAL FLOWS

1. Formulation of the Problem

Let us consider the problem of the stationary supersonic flow of a non-^{7*}viscous gas without heat transfer around an arbitrary body. We shall assume that the body is stationary and that the flow far ahead of the body is uniform.

We introduce a coordinate system (x_1, x_2, x_3) and direct the x_1 axis in such a way that the velocity vector is parallel to the x_1 axis when $x_1 = -\infty$.

We designate by the vector V the velocity of the gas particles. The equations of motion, continuity and energy, which describe the flow of the gas are written in the form

$$\left. \begin{aligned} \frac{dV}{dt} + \frac{1}{\rho} \operatorname{grad} p &= 0, \\ \frac{d\rho}{dt} + \rho \operatorname{div} V &= 0, \\ \frac{d}{dt} \left(\frac{V^2}{2} + h \right) &= 0, \end{aligned} \right\} \quad (1.1)$$

where h is the enthalpy of the unit gas mass. As we know, the enthalpy is determined by the expression $h = \epsilon + p/\rho$. Here ϵ is the internal energy of a unit gas mass. It is assumed that during the flow of the gas there is local thermodynamic equilibrium and that ϵ is a function of only the pressure p and the density ρ , obtained from thermodynamic considerations.

Thus the flow problem is reduced to finding the solution of system (1.1) which satisfies the following condition at the body

$$V_n = 0, \quad (1.2)$$

where V_n is the normal component of the velocity vector at the surface of the body. In addition to this, the following condition must be satisfied at infinity

$$V|_{x_1=-\infty} = V_\infty. \quad (1.3)$$

*Numbers given in margin indicate pagination in original foreign text.

For bodies of finite dimensions the perturbations are damped in the direction perpendicular to the x_1 axis. Therefore in these directions the following condition must be satisfied

$$\lim V = V_\infty. \quad (1.3')$$

However, there may be no continuous solution of the formulated problem. Simple examples of compressible gas flow and experiments indicate that the solution may have singularities--discontinuities in the values V , p , ρ , infinite ^{/8} derivatives of these quantities, etc. Therefore, from the very beginning it becomes necessary to find the generalized solution of the flow problem. As we know, this generalized solution is obtained from integral relationships equivalent to system (1.1) in the case of smooth solutions. It is easy to show that the flow problem thus formulated has no single-valued solution. Therefore, to provide for a single-valued solution, in addition to conditions (1.2), (1.3) and (1.3'), it is necessary to have certain additional conditions. The question of how to formulate correctly the problem of stationary flow providing for the uniqueness of boundary conditions remains unsolved to date. This difficulty may be surmounted by seeking the stationary solution as a limiting case of the nonstationary solution when $t \rightarrow \infty$. In this connection we must assume that such a limit does exist and therefore the above fundamental difficulties are transformed, so to speak, into another plane. However, there is a series of problems on the stationary axisymmetric flow, solved by the steady state method where the existence of the limit is clearly established in the computation process. This solution of three-dimensional flow has not been realized to date. This is partially explained by the insufficient capabilities of modern computers.

Another widespread method of selecting the solutions for the stationary flow problem is the postulation of the qualitative flow picture as a whole. Thus, rather well-founded physical considerations indicate that in supersonic flow around bodies the region of unperturbed uniform flow in front of the body will be separated from the region of perturbed flow by a surface on which the hydrodynamic quantities are discontinuous (part of this surface may have a weak discontinuity). In the case when the entire surface is a discontinuity surface, it will be a shock wave and is frequently called the bow wave. In considering the flow at large distances from a finite body and taking into account (1.3'), we can show (ref. 1) that in addition to the bow wave, there will also be a tail wave. For bodies of complex configuration, in addition to the above waves it becomes necessary to postulate the presence of a whole series of other peculiarities of the flow. It is important to note that the construction of such qualitative pictures of the flow are based on experimental data.

We shall limit our consideration of the flow to the region confined between the bow wave and the body up to the subsequent discontinuity, if such a discontinuity exists. In supersonic flow the perturbations can be transmitted only downstream if they are insufficient in magnitude to change the flow picture completely. Therefore, the flow in the region considered may be established without solving the problem as a whole. In a series of cases this is sufficient

for practical purposes. Depending on the shape of the body's leading edge and on the Mach number of the unperturbed flow, the leading shock wave may be either detached (fig. 1a, b) or connected (fig. 1c). In cases a and b the leading shock wave is followed by a subsonic region whose boundaries are schematically shown by the broken line. In case c the flow has a singularity at the apex of the body. Due to this nature of the flow it is convenient to separate into two parts the problem of determining the flow within the region between the shock wave and the body. Let us separate this region by some surface S into parts I and II (see fig. 1) such that the flow velocity is supersonic at all its points and the surface S has a three-dimensional nature. The determination of the flow in region I is reduced to the solution of a boundary value 19 problem which is different for cases a, b and c. Having solved this problem, we find the values V , p and ρ on the surface S , after which it is possible to find the flow in region II. Below we formulate the boundary value problem for the flow in region II and in the present work we shall limit ourselves to the development of the algorithm for its numerical solution. In regard to the flow in region I, in case c, as we shall show below (Section 6), it is reduced to the same algorithm as the flow in region II.

In cases a and b, a boundary value problem occurs for a system of mixed equations. When the flow is axially symmetric, a series of algorithms is

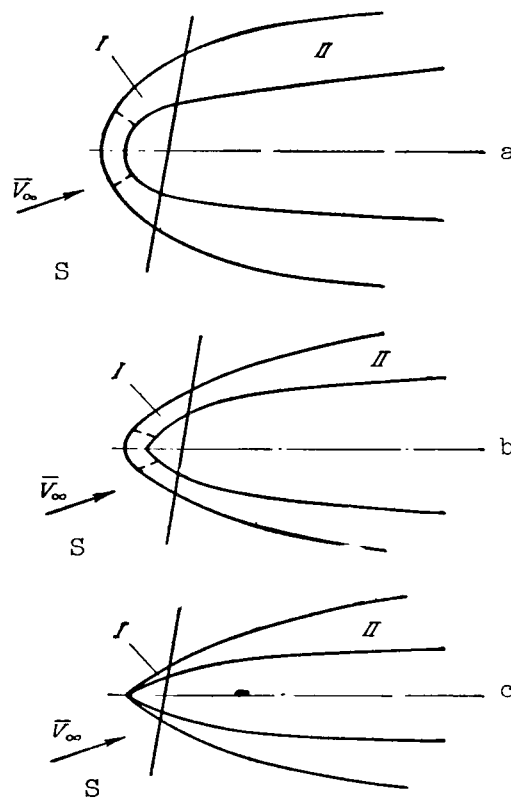


Figure 1

proposed for its numerical solution. Among these the method which is logically without reproach is the direct method. This method makes it possible to compute the flow around the bow of a rounded body and makes it possible to follow the processes associated with the formation of the bow shock wave as well as its evolution. The method can be generalized for the case of flow around a body with an arbitrary nose part as well as for problems of the mixed type in which there is an interaction of shock waves. By using a difference scheme to realize this method, we may control the accuracy of the numerical solution since any decrease in the mesh step does not lead to any fundamental difficulties and is limited only by the capabilities of a specific electronic digital computer.

One of the difference schemes for solving the problem of flow around a blunt body by the direct method is described in the work of S. K. Godunov, A. V. Zabrodin and G. P. Prokopov (ref. 14). Other methods are discussed in references 9, 11 and 12.

Now let us consider the formulation of the boundary value problem in region II. We introduce a cylindrical system of coordinates (z, r, φ) and direct the z axis so that it does not intersect the surface of the body in region II. In all specific problems which are considered this requirement is easily satisfied. We rewrite system (1.1) in terms of cylindrical coordinates by first transforming the energy equation to the form

$$\frac{dp}{dt} - c^2 \frac{dp}{dt} = 0,$$

where

$$c^2 = \left(\frac{\partial p}{\partial \rho} \right)_s = \frac{\rho \frac{\partial h}{\partial \rho}}{1 - \rho \frac{\partial h}{\partial p}}$$

is the square of the speed of sound. Let u, v, w be the components of the 10 velocity vector V in the above system of coordinates. For subsequent discussions it is convenient to write the equations in matrix form (Γ equals Gram operator)

$$\mathfrak{A} \frac{\partial X}{\partial z} + \mathfrak{B} \frac{\partial X}{\partial r} + \mathfrak{C} \frac{\partial X}{\partial \varphi} + \Gamma = 0, \quad (1.4)$$

where $\mathfrak{A}, \mathfrak{B}, \mathfrak{C}$ are square matrices

$$\mathfrak{A} = \begin{pmatrix} u & 0 & 0 & \frac{1}{\rho} & 0 \\ 0 & u & 0 & 0 & 0 \\ 0 & 0 & u & 0 & 0 \\ \rho c^2 & 0 & 0 & u & 0 \\ \rho & 0 & 0 & 0 & u \end{pmatrix}$$

$$\begin{aligned} \mathfrak{S} &= \begin{pmatrix} v & 0 & 0 & 0 & 0 \\ 0 & v & 0 & \frac{1}{\rho} & 0 \\ 0 & 0 & v & 0 & 0 \\ 0 & \rho c^2 & 0 & v & 0 \\ 0 & \rho & 0 & 0 & v \end{pmatrix} \\ \mathfrak{E} &= \frac{1}{r} \begin{pmatrix} w & 0 & 0 & 0 & 0 \\ 0 & w & 0 & 0 & 0 \\ 0 & 0 & w & \frac{1}{\rho} & 0 \\ 0 & 0 & \rho c^2 & w & 0 \\ 0 & 0 & \rho & 0 & w \end{pmatrix}, \end{aligned} \quad (1.5)$$

while Γ and X are matrix columns which we shall simply refer to as vectors

$$\Gamma = \frac{1}{r} \begin{pmatrix} 0 \\ -w^2 \\ wv \\ \rho c^2 v \\ \rho v \end{pmatrix}; \quad X = \begin{pmatrix} u \\ v \\ w \\ p \\ \rho \end{pmatrix}. \quad (1.6)$$

Let the equation for the surface of the body in our system of coordinates have the form

$$r = G(z, \varphi), \quad (1.7)$$

and the equation of the shock wave have the form

$$r = F(z, \varphi). \quad (1.8)$$

At the bow shock wave, the conditions for the conservation of mass, impulse and energy are satisfied /11

$$\left. \begin{aligned} \rho V_v &= \rho_\infty V_{v_\infty}, \\ p + \rho_\infty V_{v_\infty} V_v &= p_\infty + \rho_\infty V_{v_\infty}^2, \\ h + \frac{V_v^2}{2} &= h_\infty + \frac{V_{v_\infty}^2}{2}, \\ u + v F_z &= u_\infty + v_\infty F_z, \\ v \frac{F_\varphi}{F} + w &= v_\infty \frac{F_\varphi}{F} + w_\infty. \end{aligned} \right\} \quad (1.9)$$

In (1.9) the quantities designated by the subscript " ∞ " pertain to the unperturbed flow while all others pertain to the condition directly behind the front of the bow wave. V_n is the projection of the velocity vector V on the normal to the bow wave

$$V_n = \frac{u \frac{\partial F}{\partial z} - v + \frac{1}{F} \frac{\partial F}{\partial \varphi} w}{\sqrt{1 + \left(\frac{\partial F}{\partial z}\right)^2 + \left(\frac{1}{F} \frac{\partial F}{\partial \varphi}\right)^2}}. \quad (1.10)$$

On the basis of (1.2), the boundary condition on the body is written

$$u \frac{\partial G}{\partial z} - v + \frac{1}{G} \frac{\partial G}{\partial \varphi} w = 0. \quad (1.11)$$

The boundary value problem for determining the flow in region II may be formulated in the following manner. Let us assume that the vector X is known on the surface S (i.e., the line of intersection of S with the bow wave is known) and the surface S is three-dimensional (then the flow will be supersonic in some region neighboring S). We must find the solution of system (1.4) with initial data on S , with boundary conditions on the body (1.11) and on a surface of the bow wave unknown to us (1.9).

From the solution we find the vector X and the function $F(z, \varphi)$ in some neighborhood of S . By generating a new surface S_1 , which satisfies the same

requirements as S , the solution process can be repeated. Proceeding in this manner we construct a solution for region II including the point when singularities appear in the solution. The surfaces S, S_1, S_2, \dots may be the planes

$z = \text{const}$ if all are three-dimensional; this is equivalent to the following condition in region II

$$u > c. \quad (1.12)$$

In other words, system (1.4) must be z -hyperbolic. With the exception of exotic cases, conditions (1.12) can be satisfied by the appropriate selection of the z axis.

In equations (1.4) it is rational to transform to a new system of coordinates selected such that the region in which the solution is sought has fixed boundaries independent of the sought solution. As coordinates (x, ξ, ϑ) of this type we assume that

$$\begin{aligned}
x &= z, \\
\xi &= \xi(z, r, \varphi), \\
\theta &= \varphi,
\end{aligned}
\tag{1.13}$$

where the function $\xi(z, r, \varphi)$ satisfies the conditions /12

$$\begin{aligned}
\xi[z, G(z, \varphi), \varphi] &\equiv 0, \\
\xi[z, F(z, \varphi), \varphi] &\equiv 1.
\end{aligned}
\tag{1.14}$$

The replacement of variables assumes the simplest form if we let

$$\xi = \frac{r - G(z, \varphi)}{F(z, \varphi) - G(z, \varphi)}. \tag{1.15}$$

In Section 6 it is shown that the function $\xi(z, r, \varphi)$ must satisfy the conditions

$$\begin{aligned}
&u\xi_z + v\xi_r + w\frac{\xi_\varphi}{r} < 0, \\
&(u^2 - c^2)\xi_z + u\left(\xi_r v + \frac{\xi_\varphi}{r} w\right) + \\
&+ c\sqrt{\left(\xi_r v + \frac{\xi_\varphi}{r} w\right)^2 + (u^2 - c^2)\left(\xi_r^2 + \frac{\xi_\varphi^2}{r^2}\right)} > 0.
\end{aligned}$$

We note that in a series of cases the function ξ given by equation (1.15) does not satisfy these inequalities.

After the change of variables, the region \mathfrak{G} , in which the solution is sought, is determined by the inequalities

$$x > x_0; \quad 0 \leq \theta \leq 2\pi; \quad 0 \leq \xi \leq 1.$$

In terms of the new variables, equations (1.4) are written in the form

$$A \frac{\partial X}{\partial x} + B \frac{\partial X}{\partial \xi} + C \frac{\partial X}{\partial \theta} + \Gamma = 0, \tag{1.16}$$

where

$$\begin{aligned}
A &= \mathfrak{A}, \\
B &= \xi_z \mathfrak{A} + \xi_r \mathfrak{B} + \xi_\varphi \mathfrak{C}, \\
C &= \mathfrak{C}.
\end{aligned}
\tag{1.17}$$

In view of (1.14) the coefficients of system (1.16) depend on the unknown function F , which determines the form of the bow wave.

System (1.16), together with the boundary conditions (1.9) and (1.11), determines the vector $X(x, \xi, \vartheta)$ and the function $F(x, \vartheta)$.

2. Difference Scheme for Computing Three-Dimensional Flow

In this section we shall describe a numerical algorithm for solving the boundary value problem formulated above.

Let us construct a rectangular mesh in region \mathcal{G} with steps

$$\Delta x = \tau, \quad \Delta \xi = \frac{1}{M} = h_1, \quad \Delta \vartheta = \frac{2\pi}{L} = h_2,$$

where M and L are whole numbers.

We let

13

$$x^n = n\tau + x^0, \quad \xi_m = mh_1, \quad \vartheta_l = lh_2.$$

We assume that

$$f(x^n, \xi_m, \vartheta_l) = f_{m,l}^n,$$

when n, m, l are whole. The values of the functions at points differing from the points of the mesh are obtained by interpolation. The collection of mesh

points having the same superscript n ($x = x^n$), we shall call a "layer," while

the collection of points having the same superscripts n and subscripts l ($x = x^n, \vartheta = \vartheta_l$), we shall call the "beam."

We reduce the boundary value problem which determines X and F in \mathcal{G} , to a boundary value problem for the vector function $X_{m,l}^n$ and F_l^n on the mesh. For

this purpose we approximate the differential equations and the boundary conditions by difference equations. In approximating the equations we adopt the following rule for replacing the derivatives with difference relationships

$$\begin{aligned}
\left(\frac{\partial f}{\partial x}\right)_{m+1/2,l}^{n+1/2} &\approx \frac{1}{2\tau} \{f_{m+1,l}^{n+1} + f_{m,l}^{n+1} - f_{m+1,l}^n - f_{m,l}^n\} - \\
- \frac{\sigma}{8h_2} \{f_{m+1,l+1}^n - 2f_{m+1,l}^n + f_{m+1,l-1}^n + f_{m,l+1}^n - 2f_{m,l}^n + f_{m,l-1}^n\}, \\
\left(\frac{\partial f}{\partial \xi}\right)_{m+1/2,l}^{n+1/2} &\approx \frac{1}{h_1} \{\alpha (f_{m+1,l}^{n+1} - f_{m,l}^{n+1}) + \beta (f_{m+1,l}^n - f_{m,l}^n)\}, \\
\left(\frac{\partial f}{\partial \theta}\right)_{m+1/2,l}^{n+1/2} &\approx \frac{1}{4h_2} \{\alpha (f_{m+1,l+1}^{n+1} - f_{m+1,l-1}^{n+1} + f_{m,l+1}^{n+1} - f_{m,l-1}^{n+1}) \\
+ \beta (f_{m+1,l+1}^n - f_{m+1,l-1}^n + f_{m,l+1}^n - f_{m,l-1}^n)\},
\end{aligned}$$

where

$$\alpha + \beta = 1, \quad 0 \leq \beta \leq \alpha.$$

In accordance with the above we let

$$f_{m+1/2,l}^{n+1/2} = \frac{1}{4} (f_{m+1,l}^{n+1} + f_{m,l}^{n+1} + f_{m+1,l}^n + f_{m,l}^n).$$

If we assume that the steps h_1 and h_2 have the same order as τ , it is easy to show that the difference relations approximate the derivatives, respectively, with an accuracy up to $O(\tau^2) + \sigma O(\tau)$, $O(\tau^2) + (\alpha - \beta) O(\tau)$ i.e., when $\sigma = 0$ and $\alpha = \beta$ we have an approximation of the second order.

In the future, to condense our writing we introduce the displacement operators

$$Sf_{m,l}^n = f_{m+1,l}^n, \quad Tf_{m,l}^n = f_{m,l+1}^n.$$

By means of these, the preceding equations can be written in the form

$$\begin{aligned}
\left(\frac{\partial f}{\partial x}\right)_{m+1/2,l}^{n+1/2} &\approx \frac{1}{2\tau} (S + I) \left\{ f_{m,l}^{n+1} - \left[I + \frac{\sigma \kappa_2}{4} (T - 2I + T^{-1}) \right] f_{m,l}^n \right\}, \\
\left(\frac{\partial f}{\partial \xi}\right)_{m+1/2,l}^{n+1/2} &\approx \frac{1}{2\tau} 2\kappa_1 (S - I) (\alpha f_{m,l}^{n+1} + \beta f_{m,l}^n), \\
\left(\frac{\partial f}{\partial \theta}\right)_{m+1/2,l}^{n+1/2} &\approx \frac{1}{2\tau} \frac{\kappa_2}{2} (S + I) (T - T^{-1}) (\alpha f_{m,l}^{n+1} + \beta f_{m,l}^n),
\end{aligned} \tag{2.1}$$

where I is the identical operator

/14

$$If_{m,l}^n = f_{m,l}^n \quad \text{and}$$

$$\kappa_1 = \frac{\tau}{h_1}; \quad \kappa_2 = \frac{\tau}{h_2}.$$

Substituting the expression for the derivatives into the differential equations (1.16) we obtain a system of difference equations

$$\begin{aligned} & A_{m+1/2,l}^{n+1/2} (S + l) \left\{ X_{m,l}^{n+1} - \left[l + \frac{5\kappa_1}{4} (T - 2l + T^{-1}) \right] X_{m,l}^n \right\} + \\ & + 2\kappa_1 B_{m+1/2,l}^{n+1/2} (S - l) (\alpha X_{m,l}^{n+1} + \beta X_{m,l}^n) + \\ & + \frac{\kappa_2}{2} C_{m+1/2,l}^{n+1/2} (S + l) (T - T^{-1}) (\alpha X_{m,l}^{n+1} + \beta X_{m,l}^n) + 2\tau \Gamma_{m+1/2,l}^{n+1/2} = 0. \end{aligned} \quad (2.2)$$

We write the boundary conditions on the body and on the wave at points $(x^{n+1}, 0, \theta_l)$ and $(x^{n+1}, 1, \theta_l)$. Condition (1.11) will take the form

$$(G_x)_l^{n+1} u_{0,l}^{n+1} - v_{0,l}^{n+1} + \left(\frac{G_\theta}{G} \right)_l^{n+1} w_{0,l}^{n+1} = 0. \quad (2.3)$$

The conditions on the bow wave will be written in the form

$$\left. \begin{aligned} \rho_{M,l}^{n+1} V_{v,l}^{n+1} &= \rho_\infty V_{\infty,l}^{n+1}, \\ p_{M,l}^{n+1} + \rho_\infty V_{\infty,l}^{n+1} V_{v,l}^{n+1} &= p_\infty + \rho_\infty [V_{\infty,l}^{n+1}]^2, \\ h(p_{M,l}^{n+1}, \rho_{M,l}^{n+1}) + \frac{[V_{v,l}^{n+1}]^2}{2} &= h_\infty + \frac{[V_{\infty,l}^{n+1}]^2}{2}, \\ u_{M,l}^{n+1} + (F_x)_l^{n+1} v_{M,l}^{n+1} &= u_\infty + (F_x)_l^{n+1} v_\infty, \\ \left(\frac{F_\theta}{F} \right)_l^{n+1} v_{M,l}^{n+1} + w_{M,l}^{n+1} &= \left(\frac{F_\theta}{F} \right)_l^{n+1} v_\infty + w_\infty, \end{aligned} \right\} \quad (2.4)$$

where

$$V_{v,l}^{n+1} = \frac{u_{M,l}^{n+1} (F_x)_l^{n+1} - v_{M,l}^{n+1} + \left(\frac{F_\theta}{F} \right)_l^{n+1} w_{M,l}^{n+1}}{\sqrt{1 + [(F_x)_l^{n+1}]^2 + \left[\left(\frac{F_\theta}{F} \right)_l^{n+1} \right]^2}}$$

is determined in the same manner as $V_{\infty,l}^{n+1}$. The relationship between F_l^{n+1} , $(F_x)_l^{n+1}$ and $(F_\theta)_l^{n+1}$ is given by the equations

$$\begin{aligned} F_l^{n+1} &= F_l^n + \frac{\tau}{2} (F_{x,l}^{n+1} + F_{x,l}^n), \\ F_{\theta,l}^{n+1} &= \frac{1}{2h_1} (F_{l+1}^{n+1} - F_{l-1}^{n+1}). \end{aligned} \quad (2.5)$$

From the conditions of the problem we know the values of all quantities when $x = x_0$, i.e., on the zero layer. To solve the problem completely it is apparently sufficient to have an algorithm for the transition from the n -th to $(n + 1)$ -th layer. If we assume that all quantities with the subscript n are known in equations (2.2), (2.4) and take into account (2.5), we obtain $5ML + 6L$ equations for $X_{m,l}^{n+1}$ and F_l^{n+1} . If we note that the solution is periodic with respect to ϑ ($f_{m,0}^n = f_{m,L}^n$) the number of unknowns will also be equal to $5ML + 6L$.

This is, of course, insufficient to obtain a single-valued solution for /15 the system and, furthermore, it is obvious that the system does not have a single-valued solution. However, the iteration method described below always leads to the required solution. Theoretically the convergence of iteration is not proven, but this convergence is clearly confirmed by calculations.

Let us assume that we have some type of iteration process for solving the system (2.2)—(2.4) and that q is the iteration number. We designate the values of $X_{m,l}$, F_l obtained by the q -th iteration, by $X_{m,l}^{n+(q)}$, $F_l^{n+(q)}$. We shall assume that

$$\begin{aligned} X_{m,l}^{n+(0)} &= X_{m,l}^n; \\ X_{m,l}^{n+(q/2)} &= \frac{1}{2} (X_{m,l}^n + X_{m,l}^{n+(q)}). \end{aligned} \quad (2.6)$$

If the calculation process is terminated at the Q -th iteration, then we let

$$X_{m,l}^{n+(Q)} = X_{m,l}^{n+1}; \quad F_l^{n+(Q)} = F_l^{n+1}.$$

The following method has been proposed in reference 8 for the iteration solution of a system of difference equations. Let us assume that we already know $X_{m,l}^{n+(q)}$, $F_l^{n+(q)}$ and that it is required to find the values $X_{m,l}^{n+(q+1)}$ and $F_l^{n+(q+1)}$. In equations (2.2), (2.4) we replace $X_{m,l}^{n+1}$ and F_l^{n+1} by $X_{m,l}^{n+(q+1)}$ and $F_l^{n+(q+1)}$, while $X_{m,l\pm 1}^{n+1}$ and $F_{l\pm 1}^{n+1}$ are replaced by $X_{m,l\pm 1}^{n+(q)}$ and $F_{l\pm 1}^{n+(q)}$. The coefficients of equations (2.2), i.e., the elements of the matrices A , B , C and of the vector Γ will be computed from the values $X_{m,l}^{n+(q/2)}$ and $F_l^{n+(q/2)}$. As a result, equations (2.2) will assume the form

$$\begin{aligned}
& A_{m+1/2, l}^{n+(q/2)} (S + I) \left\{ X_{m, l}^{n+(q+1)} - \left[I + \frac{\sigma \kappa_2}{4} (T - 2I + T^{-1}) \right] X_{m, l}^n \right\} + \\
& + 2\kappa_1 B_{m+1/2, l}^{n+(q/2)} (S - I) (\alpha X_{m, l}^{n+(q+1)} + \beta X_{m, l}^n) + \\
& + \frac{\kappa_2}{2} C_{m+1/2, l}^{n+(q/2)} (S + I) (T - T^{-1}) (\alpha X_{m, l}^{n+(q)} + \beta X_{m, l}^n) + 2\tau \Gamma_{m+1/2, l}^{n+(q/2)} = 0.
\end{aligned} \tag{2.7}$$

In these equations as well as under conditions at the bow wave, $\left(\frac{F_0}{F}\right)_l^{n+1}$ is replaced by the following in accordance with the above

$$\frac{1}{2h_2 F_l^{n+(q)}} (F_{l+1}^{n+(q)} - F_{l-1}^{n+(q)}).$$

Before considering a method for solving this equation, we consider the question concerning the number of the iteration Q . We point out first that for any finite Q , equations (2.2)-(2.4) are not equivalent to the combination of equations (2.7), (2.3), (2.4) when $q = 0, 1, \dots, Q - 1$. The latter may be considered in two ways--either as equations giving an approximate solution of the initial difference equations or as a new difference scheme for the differential operator (1.9), (1.11), (1.16). In assuming the latter point of view, we must consider the questions of approximation, stability, convergence, etc. for this new difference scheme. It can be shown that when $Q \geq 2$ and $\alpha - \beta = \sigma = 0$ the new difference scheme retains a second order accuracy. However, for any Q and $\alpha - \beta = \sigma = 0$ this difference scheme will not be stable for any relationship of steps.¹ If $Q \geq 2$ the remaining terms of the difference /16 scheme will have the order

$$(\alpha - \beta) O(\tau) + \sigma O(\tau) + O(\tau^2),$$

while for small $\alpha - \beta > 0$, $\sigma > 0$ the difference scheme will be close to the second order scheme.

Now let us consider the question of solving the system of equations on the layer. We shall break equations (2.7) into groups and refer to one group of equations with the same subscript l . It is convenient to write them in the following form

$$\begin{aligned}
& a_{m+1/2, l}^{n+(q/2)} X_{m+1, l}^{n+(q+1)} + b_{m+1/2, l}^{n+(q/2)} X_{m, l}^{n+(q+1)} = f_{m+1/2, l}, \\
& a = A + 2\alpha\kappa_1 B, \quad b = A - 2\alpha\kappa_1 B
\end{aligned} \tag{2.8}$$

and $m = 0, 1, \dots, M - 1$. The right side $f_{m+1/2, l}$ does not contain quantities

which depend on the $(q + 1)$ -th iteration. The group of equations (2.8) together with the corresponding conditions on the body and on the wave contains

¹We note that the initial difference scheme (2.2) is stable for any relationship of steps if $\alpha - \beta \geq 0$ and $\sigma \geq 0$.

unknowns which pertain only to the given l beam. For this reason the entire system of $5M + 6L$ equations breaks down into L independent subsystems consisting of $5M + 6$ equations each. Thus, the problem of computing the unknown quantities on the $n + 1$ layer has been reduced to the solution of equations on the beam. Let us consider the solution of this system on the l -th beam. Since in this case the subscript l will be fixed and the superscripts will also be fixed, we drop them and write the difference equations (2.8) in the following manner

$$a_{m+1/2}X_{m+1} + b_{m+1/2}X_m = f_{m+1/2}, \quad m = 0, 1, 2, \dots, M-1. \quad (2.9)$$

For this difference system we have obtained a boundary value problem with linear boundary conditions for $m = 0$ and five nonlinear equations when $m = M$. These nonlinear equations (2.4) establish a relationship between the components of vector X_M and the unknown quantity F_x . Eliminating F_x we obtain four nonlinear conditions which associate the components X_M and the equation for F_x .

To solve the obtained boundary value problem we use the sweep method (ref. 8). We write the boundary condition (2.3) on the body in the form

$$\mu_0 X_0 = g_0, \quad (2.10)$$

where

$$\mu_0 = \omega_0 \left\{ G_x, -1, \frac{G_\theta}{G}, 0, 0 \right\}$$

and

$$g_0 = 0.$$

The constant $\omega_0 \neq 0$ will be determined below. Condition (2.10) determines a four-dimensional hyperplane which contains X_0 . Let us show that equations (2.9) inductively determine the four-dimensional hyperplanes which contain X_{m+1} , $m = 0, 1, \dots, M-1$. Indeed, let us assume that the following relationship is known

$$\mu_m X_m = g_m. \quad (2.11)$$

Eliminating X_m from this equation and from (2.9), we obtain

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$$\mu_m (b^{-1}a)_{m+1/2} X_{m+1} = \mu_m (b^{-1}f)_{m+1/2} - g_m.$$

By letting

$$\begin{aligned}\mu_{m+1} &= \omega_{m+1} \mu_m (b^{-1}a)_{m+1/2}, \\ g_{m+1} &= \omega_{m+1} [\mu_m (b^{-1}f)_{m+1/2} - g_m],\end{aligned}$$

where $\omega_{m+1} \neq 0$, we obtain the desired relationship for X_{m+1} and thereby obtain μ_m and g_m for $m = 1, 2, \dots, M - 1$. We select the constants ω_{m+1} , by normalizing the vectors μ_m along some norm. Thus, we shall always have $\|\mu_m\| = 1$ and

$$\omega_{m+1}^{-1} = \|\mu_m (b^{-1}a)_{m+1/2}\|.$$

The method described above for computing μ_m and g_m is called direct sweep. As a result of direct sweep we obtain the relationship

$$\mu_M X_M = g_M, \quad (2.11')$$

which forms the system (2.4). The system of equations for X_M and F_x has several solutions; however, only one of these has physical meaning. Section 6 describes a method which makes it possible to find this particular solution.

If we know vector X_M we can find X_m by induction for $m = M - 1, M - 2, \dots, 0$ from equations

$$\begin{aligned}a_{m+1/2} X_{m+1} + b_{m+1/2} X_m &= f_{m+1/2}, \\ \mu_m X_m &= g_m,\end{aligned} \quad (2.12)$$

i.e., to carry out inverse sweep. We note that we cannot use only the first five equations for this purpose because

$$\|(b^{-1}a)_{m+1/2}\| > 1$$

and consequently the inverse sweep performed in this manner will be unstable.¹

¹In the so-called inverse method, when the form of the shock wave and all values on it are assigned, the numerical solution is reduced precisely to the determination of X_m from X_{m+1} from the first five equations of system (2.12).

Therefore, it is necessary to utilize all six equations to form five independent linear combinations and thus reduce system (2.12) to the system

$$X_m = c_m X_{m+1} + d_m.$$

If we can achieve a situation whereby $\|c_m\| < 1$, the inverse sweep will be stable. In the case of hydrodynamic equations considered here, it is possible to achieve the stability of inverse sweep if certain conditions presented in Section 3 are satisfied. We shall not present the expression for the matrix c_m so as not to encumber our presentation with complex equations.

By thus computing the vectors X_m , $m = 0, 1, 2, \dots, M$ and F_x , we find all the unknowns on the l beam, $l = 0, 1, \dots, L$, and consequently on the layer itself. In the formal presentation of the sweep method presented above we said nothing about the conditions during which the sweep is stable. The clarification of such necessary and sufficient conditions of stability for sweep is extremely important since if these conditions are violated, the entire system becomes unstable. These conditions impose definite requirements on the function $\xi(z, r, \varphi)$ which was determined above with a high degree of arbitrariness. By selecting this function properly we shall strive to achieve a firm determination of system (2.9). Therefore, we shall consider these questions in more detail and in a more general manner.

3. Correctness of Boundary Value Problems for Difference Equations

The procedure used above for solving the equations along the beam has a general nature and may be applied to difference equations obtained by approximating the arbitrary hyperbolic system of the first order. Let us assume that we have a mixed problem for the system

$$\frac{\partial X}{\partial t} + A(t, \xi) \frac{\partial X}{\partial \xi} = F$$

with boundary conditions

$$\begin{aligned} B_0(t) X|_{\xi=0} &= G(t), \\ B_1(t) X|_{\xi=1} &= H(t). \end{aligned}$$

Here X is the n -dimensional vector, $X \in R^n$; A is the square matrix of the n -th order; $F \in R^n$; B_0 and B_1 are rectangular matrices of dimensions $r \times n$ and $s \times n$, $r + s = n$, $0 \leq r \leq n$; and G, H are r -dimensional and s -dimensional vectors,

respectively. As a result of a certain difference approximation of the system and of the boundary conditions, we obtained the following system

$$a_{m+1/2}X_{m+1} + b_{m+1/2}X_m = f_{m+1/2}, \quad m = 0, 1, \dots, M-1 \quad (3.1)$$

with boundary conditions

$$a) \mu_0 X_0 = g_0, \quad b) \nu_M X_M = h_M, \quad (3.2)$$

where, as above, $X_{m+1}, f_{m+1/2} \in R^n$; $a_{m+1/2}, b_{m+1/2}$ are square matrices of the n -th order, while μ_0, ν_M and g_0, h_M are rectangular matrices and vectors with the same dimensions as the boundary conditions for the differential equations.

We shall be interested first in the question concerning the conditions for the single-valued solution of the boundary value problem (3.1), (3.2). For a system of linear equations of the general form this condition for single-valuedness is that the determinant of the system be different from zero; however, for a system having a specific structure, as for example system (3.1), simpler conditions for making the check can be specified. We shall consider system (3.1) for the unlimited increase in M and, therefore, by keeping in mind the numerical solution of the system we shall find the conditions for the correctness of the boundary value problem (3.1), (3.2) uniform with respect to M . Taking into account the above origin of difference equations (3.1), we require that the eigenvalues of the matrix beam

$$a_{m+1/2} + \lambda b_{m+1/2}$$

$\lambda_1^{(m)}, \lambda_2^{(m)}, \dots, \lambda_n^{(m)}$ be real while those of the matrix $a_{m+1/2}$ and $b_{m+1/2}$ be non-singular.¹ Let us assume that for any m these eigenvalues satisfy the condition

$$|\lambda_k^{(m)}| \geq (1 - \varepsilon_m)^{-1}, \quad k = 1, 2, \dots, r; \quad |\lambda_l^{(m)}| \leq 1 - \varepsilon_m, \quad l = r+1, \dots, n, \quad (3.3)$$

where $\varepsilon_m > 0$ while r is determined above. Let us assume in addition that the left unit eigenvectors $\eta_1^{(m)}, \dots, \eta_n^{(m)}$, the matrices $(b^{-1}a)_{m+1/2}$, which satisfy the

¹The matrices $a_{m+1/2}$ and $b_{m+1/2}$ may become singular only for certain values of the ratio $\Delta t / \Delta \xi$ whose number is finite.

eigenvalues $\lambda_1^{(m)}, \dots, \lambda_n^{(m)}$, uniformly over m , are linearly independent, i.e., that the condition for the Gram operator Γ is satisfied

$$C_0 < \Gamma(\eta_1^{(m)}, \dots, \eta_n^{(m)}) \leq 1, \quad (3.4)$$

where the constant C_0 does not depend on m and M . Finally, we subject the matrices $a_{m+1/2}$ and $b_{m+1/2}$ to definite continuity conditions; specifically, we require that

$$\|\eta_v^{(m+1)} - \eta_v^{(m)}\| < \delta, \quad v = 1, \dots, n; \quad m = 0, 1, \dots, M-2, \quad (3.5)$$

where δ depends only on M .

We now establish one simple inequality for the solution of system (3.1), (3.2) from which the correctness of the boundary value problem will follow. Let us assume that V_m is a matrix whose k -th line elements are equal to the

components of the vector $\alpha_k^{(m)} \eta_k^{(m)}$, $\alpha_k^{(m)} \geq 0$. We first select the numbers $\alpha_k^{(m)}$ from the following conditions

$$\begin{aligned} \alpha_k^{(m)} = 0 \quad \text{for} \quad k = 1, 2, \dots, r; \quad \alpha_k^{(m)} \geq 1 \quad \text{for} \quad k = r+1, \dots, n, \\ |\alpha_k^{(m+1)} - \alpha_k^{(m)}| \leq \frac{C_1}{M}, \quad k = 1, \dots, m, \end{aligned} \quad (3.6)$$

where the constant C_1 will be determined below. We assume that

$$E_m = V_m' V_m.$$

From our construction, E is a symmetric matrix and

$$(E_m x, x) \geq 0.$$

We transform equation (3.1) into

$$(b^{-1}a)_{m+1/2} X_{m+1} + X_m = (b^{-1}f)_{m+1/2}.$$

We multiply this equation by the matrix E_m and carry out a scalar multiplication of the resulting vector by the vector X_m

$$(E_m (b^{-1}a)_{m+1/2}, X_{m+1}, X_m) + (E_m X_m, X_m) = (E_m (b^{-1}f)_{m+1/2}, X_m).$$

From this we obtain

$$(E_m X_m, X_m) \leq | (E_m (b^{-1}a)_{m+1/2}, X_{m+1}, X_m) | + | (E_m (b^{-1}f)_{m+1/2}, X_m) |. \quad (3.7)$$

We apply the Schwartz inequality to both terms of the right side

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$$(E_m X, Y)^2 \leq (E_m X, X) (E_m Y, Y).$$

Then from (3.7) we obtain the inequality

$$(E_m X_m, X_m)^{1/2} \leq (E_m (b^{-1}a)_{m+1/2}, X_{m+1}, (b^{-1}a)_{m+1/2}, X_{m+1})^{1/2} + (E_m (b^{-1}f)_{m+1/2}, (b^{-1}f))^{1/2}.$$

However, according to (3.3),

$$\begin{aligned} (E_m (b^{-1}a)_{m+1/2}, X_{m+1}, (b^{-1}a)_{m+1/2}, X_{m+1}) &= (V_m (b^{-1}a)_{m+1/2}, X_{m+1}, V_m (b^{-1}a)_{m+1/2}, X_{m+1}) = \\ &= \sum_{k=r+1}^n (\alpha_k^{(m)} \lambda_k^{(m)})^2 (\eta_k^{(m)}, X_{m+1})^2 \leq (1 - \varepsilon_m)^2 \sum_{k=r+1}^n (\alpha_k^{(m)})^2 (\eta_k^{(m)}, X_{m+1})^2 = \\ &= (1 - \varepsilon_m)^2 (E_m X_{m+1}, X_{m+1}). \end{aligned}$$

Therefore

$$(E_m X_m, X_m)^{1/2} \leq (1 - \varepsilon_m) (E_m X_{m+1}, X_{m+1})^{1/2} + (E_m (b^{-1}f)_{m+1/2}, (b^{-1}f)_{m+1/2})^{1/2}. \quad (3.8)$$

From (3.5) and (3.6) it follows that

$$(E_m X_{m+1}, X_{m+1})^{1/2} \leq (E_{m+1} X_{m+1}, X_{m+1})^{1/2} + C_2 (\delta + M^{-1}) \|X_{m+1}\|.$$

By comparing the last inequality with inequality (3.8) we obtain

$$\begin{aligned} (E_m X_m, X_m)^{1/2} &\leq (1 - \varepsilon_m) (E_{m+1} X_{m+1}, X_{m+1})^{1/2} + \\ &+ (E_m (b^{-1}f)_{m+1/2}, (b^{-1}f)_{m+1/2})^{1/2} + C_2 (\delta + M^{-1}) \|X_{m+1}\|. \end{aligned}$$

Assuming here that $m = 0, 1, \dots, M - 2$ and adding these inequalities and inequality (3.8), for $m = M - 1$ we obtain

$$\begin{aligned} \sum_{m=0}^{M-1} (E_m X_m, X_m)^{1/2} &\leq \sum_{m=0}^{M-2} (1 - \varepsilon_m) (E_{m+1} X_{m+1}, X_{m+1})^{1/2} + (1 - \varepsilon_{M-1}) (E_{M-1} X_M, X_M)^{1/2} \\ &+ \sum_{m=0}^{M-1} (E_m (b^{-1}f)_{m+1/2}, (b^{-1}f)_{m+1/2})^{1/2} + C_2 (\delta + M^{-1}) \sum_{m=1}^{M-1} \|X_m\|^2. \end{aligned}$$

It follows that

$$\begin{aligned} (E_0 X_0, X_0)^{1/2} &+ \sum_{m=1}^{M-1} \varepsilon_{m-1} (E_m X_m, X_m)^{1/2} \leq (1 - \varepsilon_{M-1}) (E_{M-1} X_M, X_M)^{1/2} + \\ &+ \sum_{m=0}^{M-1} (E_m (b^{-1}f)_{m+1/2}, (b^{-1}f)_{m+1/2})^{1/2} + C_2 (\delta + M^{-1}) \sum_{m=1}^{M-1} \|X_m\|. \end{aligned} \quad (3.9)$$

Now we select the numbers $\tilde{\alpha}_k^{(m)}$ such that $\tilde{\alpha}_k^{(m)} \geq 1$ for $k = 1, 2, \dots, r$ and $\tilde{\alpha}_k^{(m)} = 0$ for $k = r+1, \dots, n$ and such that condition (3.6) be satisfied. From these numbers $\tilde{\alpha}_k^{(m)}$ and the vectors $\eta_1^{(m)}, \dots, \eta_n^{(m)}$ we construct the matrix \tilde{V}_m in the same manner as described above and determine the matrix \tilde{E}_m in the similar manner

$$\tilde{E}_m = \tilde{V}_m \tilde{V}_m^*.$$

We change the positions of the matrix a and b in the above calculations and instead of moving from $m = 0$ to $m = M$, we go in the opposite direction. In this manner we obtain an inequality similar to (3.9)

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$$\begin{aligned} \sum_{m=1}^{M-1} \varepsilon_m (\tilde{E}_m X_m, X_m)^{1/2} &+ (\tilde{E}_{M-1} X_M, X_M)^{1/2} \leq (1 - \varepsilon_0) (\tilde{E}_0 X_0, X_0)^{1/2} + \\ &+ \sum_{m=0}^{M-1} (\tilde{E}_m (a^{-1}f)_{m+1/2}, (a^{-1}f)_{m+1/2})^{1/2} + C_2 (\delta + M^{-1}) \sum_{m=1}^{M-1} \|X_m\|. \end{aligned} \quad (3.10)$$

We let $\dot{\varepsilon}_m = \min(\varepsilon_{m-1}, \varepsilon_m)$, $m = 1, 2, \dots, M-1$; $\dot{\varepsilon}_0 = 1/2 \varepsilon_0$; $\dot{\varepsilon}_M = 1/2 \varepsilon_{M-1}$,
 $\mathcal{E}_m = E_m + \tilde{E}_m$; $\mathcal{E}_M = \mathcal{E}_{M-1}$.

Adding (3.9) and (3.10), we obtain

$$\begin{aligned} (E_0 X_0, X_0)^{1/2} &+ \sum_{m=1}^{M-1} \dot{\varepsilon}_m (\mathcal{E}_m X_m, X_m)^{1/2} + (\tilde{E}_{M-1} X_M, X_M)^{1/2} \leq \\ &\leq (1 - \varepsilon_0) (\tilde{E}_0 X_0, X_0)^{1/2} + (1 - \varepsilon_{M-1}) (E_{M-1} X_M, X_M)^{1/2} + \\ &+ \sum_{m=0}^{M-1} [(E_m (b^{-1}f)_{m+1/2}, (b^{-1}f)_{m+1/2})^{1/2} + (\tilde{E}_m (a^{-1}f)_{m+1/2}, \tilde{E}_m (a^{-1}f)_{m+1/2})^{1/2}] + \end{aligned}$$

$$+ 2C_2 (\delta + M^{-1}) \sum_{m=1}^{M-1} \|X_m\|. \quad (3.11)$$

Since

$$(b^{-1}f)_{m+1/2} = (b^{-1}a\tilde{f})_{m+1/2},$$

where $\tilde{f} = a^{-1}f$, we obtain, as in the case above,

$$(E_m (b^{-1}f)_{m+1/2}, (b^{-1}f)_{m+1/2}) \leq (1 - \varepsilon_m)^2 (E_m \tilde{f}_{m+1/2}, \tilde{f}_{m+1/2}) < (E_m (a^{-1}f)_{m+1/2}, (a^{-1}f)_{m+1/2}).$$

By utilizing the last inequality and the obvious inequality

$$\sqrt{\alpha} + \sqrt{\beta} < \sqrt{2} \sqrt{\alpha + \beta}, \quad \alpha > 0, \beta > 0,$$

we obtain

$$\begin{aligned} \sum_{m=0}^{M-1} [(E_m (b^{-1}f)_{m+1/2}, (b^{-1}f)_{m+1/2})^{1/2} + (\tilde{E}_m (a^{-1}f)_{m+1/2}, (a^{-1}f)_{m+1/2})^{1/2}] < \\ < \sqrt{2} \sum_{m=0}^{M-1} (E_m (a^{-1}f)_{m+1/2}, (a^{-1}f)_{m+1/2})^{1/2}. \end{aligned} \quad (3.12)$$

We now use the boundary conditions for the transformation of the inequality (3.11). The lines of the matrix μ_0 are the vectors of the conjugate space. We designate the k -th line by $\mu_k^{(0)}$. We expand the vector $\mu_k^{(0)}$ in terms of the base elements $\eta_1^{(0)}, \dots, \eta_n^{(0)}$. Let us assume that

$$\mu_k^{(0)} = \sum_{l=1}^n \beta_{kl} \eta_l^{(0)}.$$

Then boundary condition (3.2,a) is equivalent to the system of equations

$$\sum_{l=1}^n \beta_{kl} (\eta_l^{(0)}, X_0) = g_k^{(0)}, \quad k = 1, 2, \dots, r.$$

We require that this system be expandable with respect to the unknowns $(\eta_l^{(0)}, X_0)$, $l = 1, 2, \dots, r$ and that the following inequality be satisfied

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$$\left(\sum_{l=1}^r (\eta_l^{(0)}, X_0)^2 \right)^{1/2} \leq C_0 \left(\sum_{l=r+1}^n (\eta_l^{(0)}, X_0)^2 \right)^{1/2} + C_0 \left(\sum_{k=1}^r (g_k^{(0)})^2 \right)^{1/2},$$

where C_0 does not depend on M . If the normalizing multipliers $\alpha_k^{(0)}$ and $\tilde{\alpha}_k^{(0)}$ are now made to satisfy the conditions

$$\tilde{\alpha}_1^{(0)} = \dots = \tilde{\alpha}_r^{(0)} = 1, \quad \alpha_{r+1}^{(0)} = \dots = \alpha_n^{(0)} = 2C_0,$$

the last inequality can be rewritten in the form

$$(\tilde{E}_0 X_0, X_0)^{1/2} \leq 1/2 (E_0 X_0, X_0)^{1/2} + C_0 \|g_0\|. \quad (3.13)$$

By placing identical conditions on the matrix V_m and the normalizing multipliers $\alpha_k^{(M-1)}, \tilde{\alpha}_k^{M-1}$, we obtain

$$(E_{M-1} X_M, X_M)^{1/2} \leq 1/2 (\tilde{E}_{M-1} X_M, X_M)^{1/2} + C_0 \|h_M\|. \quad (3.14)$$

By utilizing inequalities (3.12), (3.13) and (3.14) we strengthen the inequality (3.11). As a result of obvious transformations we obtain

$$\begin{aligned} & \frac{1+\varepsilon_0}{2} (E_0 X_0, X_0)^{1/2} + \sum_{m=1}^{M-1} \varepsilon_m^* (\mathcal{E}_m X_m, X_m)^{1/2} + \frac{1+\varepsilon_{M-1}}{2} (\tilde{E}_{M-1} X_M, X_M)^{1/2} \leq \\ & \leq V\sqrt{2} \sum_{m=0}^{M-1} (\mathcal{E}_m (a^{-1}f)_{m+1/2}, (a^{-1}f)_{m+1/2})^{1/2} + 2C_2 (\delta + M^{-1}) \sum_1^{M-1} \|X_m\| + C_0 (\|g_0\| + \|h_M\|). \end{aligned}$$

By again using inequalities (3.13) and (3.14), we obtain

$$\begin{aligned} & \sum_{m=0}^M \varepsilon_m^* (\mathcal{E}_m X_m, X_m)^{1/2} \leq V\sqrt{2} \sum_{m=0}^{M-1} (\mathcal{E}_m (a^{-1}f)_{m+1/2}, (a^{-1}f)_{m+1/2})^{1/2} + \\ & + 2C_2 (\delta + M^{-1}) \sum_1^{M-1} \|X_m\| + 2C_0 (\|g_0\| + \|h_M\|). \end{aligned}$$

It follows from (3.4) that

$$C_3^{-1} \|X_m\| \leq (\mathcal{E}_m X_m, X_m)^{1/2} \leq C_3 \|X_m\|, \quad m = 0, 1, \dots, M,$$

where the constant C_3 does not depend on M . Therefore

$$\sum_{m=0}^M \epsilon_m^* \|X_m\| \leq \sqrt{2} C_3^2 \sum_{m=0}^{M-1} \|(a^{-1}f)_{m+1/2}\| + 2C_2 C_3 (\delta + M^{-1}) \sum_{m=1}^{M-1} \|X_m\| + 2C_0 C_3 (\|g_0\| + \|h_M\|).$$

If

$$2C_2 C_3 (\delta + M^{-1}) \leq 1/2 \epsilon_m^*, \quad m = 0, 1, \dots, M, \quad (3.15)$$

and we have

$$\sum_{m=0}^M \epsilon_m^* \|X_m\| < 2^{1/2} C_3^2 \sum_{m=0}^{M-1} \|(a^{-1}f)_{m+1/2}\| + 4C_0 C_3 (\|g_0\| + \|h_M\|). \quad (3.16)$$

Inequality (3.15) is satisfied beforehand if the numbers ϵ_m^* are limited from the bottom. Similar calculations lead to the inequality

$$\sum_{m=0}^M \epsilon_m^* \|X_m\|^2 < C_4 \sum_{m=0}^{M-1} \|(a^{-1}f)_{m+1/2}\|^2 + C_4 (\|g_0\|^2 + \|h_M\|^2), \quad (3.17)$$

which exists when

$$\delta + M^{-1} \leq C_5^{-1} \epsilon_m^*, \quad m = 0, 1, \dots, M, \quad (3.15')$$

where C_5 is some constant dependent on constants C_0 and C_3 . Inequalities (3.16) and (3.17) express the fact that the boundary value problem in question is correct in L and in L^2 .

As applied to the difference equation the term "correctness" is frequently replaced by the term "well-determined" (ref. 3). The inequalities presented can be generalized in a trivial manner to systems of difference equations with difference coefficients if the respective matching conditions are satisfied at the points of discontinuity of the coefficients. It is easy to show that when any conditions (3.3), (3.13) and (3.14) are violated the correctness over M will be absent. We shall not pause to prove this. If matrices $a_{m+1/2}$ and $b_{m+1/2}$ satisfy the Lipschitz condition as functions of m , then $\delta = CM^{-1}$ where C is

some constant independent of M . In this case inequalities (3.15) take the form

$$C_6 \leq M \epsilon_m^*, m = 0, 1, \dots, M.$$

We note the important situation that in the inequalities (3.16) and (3.17),

$\min \epsilon_m^*$ may decrease to zero when M increases without limit but they remain

valid if conditions (3.15), (3.15') are satisfied. This is precisely the case in the problem of supersonic flow around bodies. One of the eigenvalues of the matrix $a + \lambda b$ on the body is equal to unity and therefore $\epsilon_0^* \sim M^{-1}$. Thus,

there may be some loss of accuracy during calculations near the body. In conclusion we should like to point out that in the work of V. S. Ryaben'kov (ref. 19), which is being published at the present time, the author shows that the algebraic criteria, similar to those presented above, are necessary and sufficient for the correctness of the boundary value problem.

4. Stability of the Sweep

Let us consider a method of solving the system of equations (3.1)-(3.2). We shall assume that the conditions presented in the preceding section which provide for the correctness of the boundary value problem are satisfied. The boundary condition (3.2a) determines the $(n - r)$ -dimensional hyperplane in

R^n . This hyperplane is assigned by the matrix μ_0 and by the r -dimensional

vector g_0 . The lines of the matrix μ_0 are vectors in the conjugate space and

determine the r -dimensional space L_0 therein. The same is true of the second

boundary condition (3.2b). The relationship (3.2a) is determined with an accuracy up to a multiplication factor by any nonsingular matrix ω_0 of the

order r ; however, the subspace L_0 is determined as single-valued. When μ_0

is multiplied by ω_0 , there is only a change of the base in L_0 . From equations

(3.1) and (3.2a) it follows that when $m = 1, 2, \dots, M$ the following relationships hold

$$\mu_m X_m = g_m, \tag{4.1}$$

where μ_m is a matrix of the same dimension as μ_0 . Indeed, if we assume that the

matrices b_{m-1} are nonsingular it follows from (3.1) and $\mu_{m-1} X_{m-1} = g_{m-1}$ that

$$\mu_{m-1} (b^{-1}a)_{m-1/2} X_m = \mu_{m-1} (b^{-1}f)_{m-1/2} - g_{m-1},$$

i.e., for μ_m and g_m we can take

$$\begin{aligned}\mu_m &= \omega_m \mu_{m-1} (b^{-1}a)_{m-1/2}, \\ g_m &= \omega_m [\mu_{m-1} (b^{-1}f)_{m-1/2} - g_{m-1}],\end{aligned}\tag{4.2}$$

where ω_m is any nonsingular matrix of order r . If any of the matrices $b_{m-1/2}$ is singular, then the form of equation (4.2) is changed and the elements of the matrix μ_m and g_m may be represented in explicit form in terms of $n+1$ order determinants. As before, μ_m and g_m will be determined with an accuracy up to a factor ω_m . We shall later operate only with equations (4.2). However, if the system (3.1)-(3.2) is well determined, all conclusions remain valid in the general case when any or even all the matrices $a_{m-1/2}$, $b_{m-1/2}$ are singular, provided the entire system is well-determined.

Now we shall show that in any relationship of the form

$$\tilde{\mu}_m X_m = \tilde{g}_m, \tag{4.3}$$

which follows from (3.1) and (3.2,a), $\tilde{\mu}_m$ and \tilde{g}_m can be represented in the form

$$\begin{aligned}\tilde{\mu}_m &= \tilde{\omega}_m \mu_m, \\ \tilde{g}_m &= \tilde{\omega}_m g_m,\end{aligned}\tag{4.4}$$

where μ_m and g_m are determined by the recurrent equations (4.2), while $\tilde{\omega}_m$ is a matrix with a corresponding dimension. We note first that the determinant of the system (3.1), (3.2) with respect to all $(M+1)n$ variables is not equal to zero merely because it can be solved. Consequently, the rank of the matrix composed of any number of matrix columns of the system equals their number. Let us consider the first $mn+r$ equations

$$\begin{aligned}\mu_0 X_0 &= g_0, \\ b_{k-1/2} X_{k-1} + a_{k-1/2} X_k &= f_{k-1/2}, \quad k = 1, 2, \dots, m.\end{aligned}\tag{4.5}$$

The rectangular matrix of dimension $(mn+r) \times mn$, composed of coefficients before the vector components X_0, X_1, \dots, X_{m-1} , has a rank of mn since the

remaining equations of the system (3.1), (3.2) do not contain the unknowns X_0 , X_1 , ..., X_{m-1} . Therefore, we can eliminate these unknowns from some of the mn equations (4.5) and substitute them into the remaining r equations, thereby replacing the system (4.5) with an equivalent one

$$\begin{aligned} \text{a) } X_k + q_{k+1/2} X_m &= \varphi_{k+1/2}, \quad k = 0, 1, \dots, m-1, \\ \text{b) } \hat{\mu}_m X_m &= \hat{g}_m, \end{aligned} \quad (4.6)$$

where $q_{k+1/2}$ are square matrices of order n and the matrix $\hat{\mu}_m$ has a rank r . Any relationship (4.3) following from (4.5) must also follow from (4.6). From the structure of system (4.6) it follows that

$$\begin{aligned} \tilde{\mu}_m &= \tilde{\Omega}_m \hat{\mu}_m, \\ \tilde{g}_m &= \tilde{\Omega}_m \hat{g}_m. \end{aligned}$$

Similarly we obtain

$$\mu_m = \Omega_m \hat{\mu}_m \text{ and } g_m = \Omega_m \hat{g}_m,$$

where μ_m and g_m are determined by equations (4.2). Since the rank of μ_m equals r , the matrix Ω_m is nonsingular and we obtain (4.4) with

$$\tilde{\omega}_m = \tilde{\Omega}_m \Omega_m^{-1},$$

which was to be proved.

It follows from the proof that the system (3.1) and boundary conditions (3.2,a) give a single-valued determination of a combination of subspaces L_m in the conjugate space. The base in L_m is assigned by the lines μ_m . The particular method of selection is determined by the normalizing matrix ω_m in (4.2).

Although (4.2) makes it possible to carry out direct sweep for any selection of ω_m , nevertheless during the process of numerical computation we can use only

those equations which do not produce an accumulation of errors. For this purpose the vectors of the base in L_m must be taken with a limited length uniformly over m . In this case the elements g_m will be uniformly limited due to the good

determination of the system and the direct sweep will be stable. However, this is not sufficient; it is also necessary that the volume of their polyvector composed of the unit base vectors be limited from the bottom. In the contrary case, the system

$$\begin{aligned}\mu_M X_M &= g_M, \\ \nu_M X_M &= h_M\end{aligned}\tag{4.7}$$

will have a determinant close to zero. To achieve these conditions, we may, for example, select ω_m in (4.2) such that the base in L_m is orthonormalized.

Another more convenient method is described in reference 17.

The inverse sweep in the computation of X_m may be carried out in a different way. For example, proceeding from the boundary conditions (3.2,b) we can obtain the relationship

$$\nu_m X_m = h_m\tag{4.8}$$

by using equations similar to (4.2), and then for each m we can solve the system consisting of (4.1) and (4.8). With this method the question of the stability of the numerical solution is reduced only to the question of the stability of direct sweep in two directions. Another method consists of determining 26 relationships of the form

$$X_m = c_m X_{m+1} + d_m, \quad m = 0, 1, \dots, M-1,$$

where $\|c_m\| \leq 1$. Calculation of c_m and d_m is performed during the process of direct sweep simultaneously with calculation of μ_m and g_m . One such algorithm is shown in reference 8.

We now show the stability of direct sweep, assuming that the conditions formulated in Section 3 are satisfied. We designate by $\xi_1^{(m)}, \xi_2^{(m)}, \dots, \xi_r^{(m)}$ the lines of the matrix μ_m which are vectors of the conjugate space. We designate by $\eta_1^{(m)}, \eta_2^{(m)}, \dots, \eta_n^{(m)}$ the normalized left eigenvectors of matrix $(b^{-1}a)_{m+1/2}$, corresponding to eigenvalues $\lambda_k^{(m)}$

$$|\lambda_1^{(m)}| > |\lambda_2^{(m)}| > \dots > |\lambda_r^{(m)}| > 1 > |\lambda_{r+1}^{(m)}| > \dots > |\lambda_n^{(m)}|.\tag{4.9}$$

We normalize the matrix μ_m such that

$$\xi_k^{(m-1)} = \eta_k^{(m-1)} + \sum_{l=r+1}^n \alpha_{kl}^{(m-1)} \eta_l^{(m-1)}. \quad (4.10)$$

When $m - 1 = 0$ this can always be achieved because the system is well determined. Then the lines of the matrix $\mu_{m-1} (b^{-1}a)_{m-1, \cdot}$ will have the form

$$\tilde{\xi}_k = \lambda_k^{(m-1)} \eta_k^{(m-1)} + \sum_{l=r+1}^n \alpha_{kl}^{(m-1)} \lambda_l^{(m-1)} \eta_l^{(m-1)}. \quad (4.11)$$

Re-expanding these in terms of the vectors $\eta_k^{(m)}$ we obtain

$$\tilde{\xi}_k = \sum_{l=1}^r (\lambda_k^{(m-1)} \delta_{kl} + \beta_{kl}) \eta_l^{(m)} + \sum_{l=r+1}^n (\alpha_{kl}^{(m-1)} \lambda_l^{(m-1)} + \beta_{kl}) \eta_l^{(m)},$$

where $\beta_{kl} = O(\delta)$, δ is determined in the preceding section and tends to zero when $M \rightarrow \infty$. We determine ω_m by equation

$$\omega_m^{-1} = \{\lambda_k^{(m-1)} \delta_{kl} + \beta_{kl}\}_{k=1}^r,$$

which gives

$$\xi_k^{(m)} = \eta_k^{(m)} + \sum_{l=r+1}^n \alpha_{kl}^{(m)} \eta_l^{(m)}.$$

We note that

$$\omega_m = (I + \tilde{\omega}_m) \{\delta_{kl} / \lambda_k^{(m-1)}\}_{k=1}^r,$$

where

$$\|\tilde{\omega}_m\| \leq C_1 \delta.$$

We designate

$$\begin{aligned} \{\alpha_{kl}^{(m)}\}_{k, l=1, r+1}^{r, n} &= \alpha^{(m)}, \\ \{\beta_{kl}^{(m)}\}_{k, l=1, r+1}^{r, n} &= \beta^{(m)}. \end{aligned}$$

It follows that

$$\alpha^{(m)} = (I + \tilde{\omega}_m) \left\{ \alpha_{kl}^{(m-1)} \frac{\lambda_l^{(m-1)}}{\lambda_k^{(m-1)}} + \frac{\beta_{kl}^{(m-1)}}{\lambda_k^{(m-1)}} \right\}_{k, l=1, r+1}^{r, n}.$$

Since $\left| \frac{\lambda_l^{(m-1)}}{\lambda_k^{(m-1)}} \right| \leq \theta < 1 < |\lambda_k^{(m-1)}|$ for any m /27

we have

$$\|\alpha^{(m)}\| \leq (1 + C_1\delta) (\|\alpha^{(m-1)}\| + C_2\delta)$$

or

$$\|\alpha^{(m)}\| \leq \theta_1 \|\alpha^{(m-1)}\| + C_3\delta,$$

where $\theta < 1$ when δ is sufficiently small. Therefore, when $m \geq m_0$ we have

$$\|\alpha^{(m)}\| \leq C\delta, \tag{4.12}$$

where C depends on θ_1 . It follows that the norms are uniformly limited, $\|\mu_m\| \leq C_4$. From (4.2) it follows that

$$\|g_m\| \leq \frac{1}{|\lambda_r^{(m-1)}|} (1 + C\delta) (C_4 \|f_{m-1/2}\| + \|g_{m-1}\|). \tag{4.13}$$

Inequalities (4.12) and (4.13) show that direct sweep is stable for the given specific selection of ω_m . In view of inequality (4.12) and the small value of δ the subspace L_m is close to the invariant subspace of the matrix $(b^{-1}a)_{m+1/2}$, stretched over the first r left eigenvectors. From the proposition, these vectors always form a good base. This proves that the system (4.7) is well determined.

Let us assume that we have some other method for direct sweep with matrices $\tilde{\mu}_m$. From what has been proven above it follows that $\tilde{\mu}_m = \Omega_m \mu_m$, $\tilde{g}_m = \Omega_m g_m$, where Ω_m is a nonsingular matrix while μ_m and g_m are determined above. If the norms of the matrix Ω_m are limited uniformly the norms of $\tilde{\mu}_m$ and \tilde{g}_m will also be limited. For a good determination of system (4.7) it is necessary that the

norms of matrix Ω_m^{-1} also be limited. If all elements $\tilde{\mu}_m$ do not exceed C_0 in modulus, the norms of matrix Ω_m will be limited. Indeed, let us assume that

$$\tilde{\xi}_k^{(m)} = \sum_{l=1}^n r_{kl} \eta_l^{(m)}. \quad (4.14)$$

By writing this equality in the coordinate form we obtain a system of n linear equations with n unknowns γ_{kl} ($l = 1, 2, \dots, n$). The right parts of (4.14) do not exceed C_0 in modulus. The square of the determinant for system (4.14) is equal to the Gram determinant of the vectors $\eta_1^{(m)}, \eta_2^{(m)}, \dots, \eta_n^{(m)}$. In the proposition, these determinants are uniformly limited from below. Therefore, $|\gamma_{kl}| \leq C_1$. Since $\Omega_m = \{\gamma_{kl}\}_{k,l=1}^n$, the norm Ω_m is also limited, and, consequently, the norm \tilde{g}_m is limited. If among the minors of the r -th order of matrix $\tilde{\mu}_m$ there is even one whose modulus is ≥ 1 , the Gram determinant of vectors $\xi_k^{(m)}$ will be greater than unity and, consequently, the ratio of the Gram determinant to the product of the length of vectors $\xi_k^{(m)}$ will be uniformly limited from below. It follows from this that the norms Ω_m^{-1} will be uniformly limited and the sweep with matrices $\tilde{\mu}_m$ of this form will be stable. The method of sweep presented in reference 17 satisfies the enumerated conditions with a constant $C_0 = r$.

Let us also consider some problems associated with development of the sweep method. This method was first used to solve one second-order difference equation based on analogy with the so-called method of factorization for a /28 differential equation (ref. 15). The sweep relationship in this case associates the values of the unknown function x_k at two neighboring points and may be written in the form resolved with respect to one of them

$$x_{k+1} = \alpha_k x_k + \beta_k. \quad (4.15)$$

The sweep consists of a successive computation of α_k, β_k beginning with α_0, β_0 . The sweep is determined in the same way for the second-order system

and α_k in this case becomes the matrix. For first-order systems we have shown above the sweep relationship associates the values of the unknown function at only one point. By analogy with (4.15) this relationship may be resolved with respect to one group of unknowns by splitting vector x_k into two-- y_k and z_k

$$y_k = \alpha_k z_k + \beta_k. \quad (4.16)$$

In this form the matrix sweep was first investigated by K. I. Babenko and N. N. Chentsov, who applied it to one two-dimensional problem of gasdynamics. In 1957, by use of the method of matrix sweep a nonstationary two-dimensional problem was solved on the propagation of a shock wave from a point explosion in a nonhomogeneous atmosphere (ref. 7). In reference 16 a description is given of matrix sweep in the form (4.16) for the general system (3.1)-(3.2) and its stability is investigated for the case of constant coefficients. In particular it is shown that the application of sweep in the form (4.16) requires fulfillment of additional limitations in addition to the conditions of correctness formulated in Section 3. This is associated with the fact that the minor or the matrix μ_m corresponding to the components y_k may prove to be close to

zero and sweep of the form (4.16) will be unstable. A similar situation may take place for second-order equations and systems. To eliminate these limitations which are not dictated by the substance of the problem, we should stop writing the sweep relationships in the form (4.16) and proceed in the manner described above.

5. Stability of Difference Systems

Usually in investigating the stability of difference systems it is assumed that the coefficients in the difference equations are constant. Limitations imposed on the steps of the difference mesh obtained as a result of such an investigation are used for difference systems with variable coefficients. As a rule, in the calculation process we convince ourselves that the difference system with variable coefficients is stable if the difference system with constant coefficients is stable. Furthermore, for certain specific types of difference equations, a theorem is proved showing that the stability of the difference system with constant coefficients tends to produce the stability of the system with variable coefficients. However, in the general case such a theorem is hardly valid. Therefore, investigation of stability for equations with constant coefficients is of a heuristic nature and the final judgment on stability may be made during problem solution. Although the investigation of stability is carried out using equations with constant coefficients, it is still rather cumbersome because boundary conditions must be considered. The spectral indication of stability taking into account the boundary conditions has been ^{/29} proposed by I. M. Gel'fand and by one author of the present work in 1953. It is described in the article by S. K. Godunov and V. S. Ryaden'kov (ref. 13) and in it the reader may find the necessary information to conduct such an investigation. We shall investigate the difference equations (2.2) with certain

simplifying assumptions using the results of Section 3. We linearize the conditions at the bow shock wave and below we shall consider the boundary value problem for equations (2.2) with one boundary condition when $m = 0$

$$\mu_{0,l}^{n+1} X_{0,l}^{n+1} = 0 \quad (5.1)$$

and for linear boundary conditions when $m = M$

$$\nu_{M,l}^{n+1} X_l^{n+1} = h_l^{n+1}. \quad (5.2)$$

We linearize the system of difference equations (2.2) and assume that the matrix elements $A_{m+1/2,l}^{n+1/2}$, $B_{m+1/2,l}^{n+1/2}$, $C_{m+1/2,l}^{n+1/2}$ are functions of only m and do not depend on the unknown vector $X_{m,l}^{n+1}$. Similarly we shall assume that in conditions (5.1), (5.2) the matrices μ and ν do not depend on l and n . Equations (2.2), (5.1) and (5.2) determine the conversion operator from the n -th layer to $n+1$ -th layer. We must know that such an operator is determined, i.e., that the system can be resolved with respect to $X_{m,l}^{n+1}$, and that its properties can be investigated. Let us consider homogeneous difference equations and boundary conditions. By taking into account the propositions we have made, equations (2.2) now take the form

$$\begin{aligned} A_{m+1/2}(S+I)[X_{m,l}^{n+1} - X_{m,l}^n - \frac{\sigma\kappa_2}{4}(T-2I+T^{-1})X_{m,l}^n] + \\ + 2\kappa_1 B_{m+1/2}(S-I)(\alpha X_{m,l}^{n+1} + \beta X_{m,l}^n) + \\ + \frac{\kappa_2}{2} C_{m+1/2}(S+I)(T-T^{-1})(\alpha X_{m,l}^{n+1} + \beta X_{m,l}^n) = 0, \end{aligned} \quad (5.3)$$

while the boundary conditions will be

$$\mu_0 X_{0,l}^{n+1} = 0, \quad (5.1')$$

$$\nu_M X_{M,l}^{n+1} = 0. \quad (5.2')$$

Since the vector $X_{m,l}^n$ is periodic with respect to l , it is easy to obtain independent equations for its Fourier coefficients from the last three equations. Let us assume that

$$X_{m,l}^n = M^{-1} \sum_{k=0}^{M-1} Y_{m,k}^n e^{-2\pi i \frac{kl}{M}}.$$

Then

$$Y_{m,k}^n = \sum_{l=0}^{M-1} X_{m,l}^n e^{2\pi i \frac{kl}{M}}. \quad (5.4)$$

From (5.4) and (5.3) we obtain

$$\begin{aligned} & A_{m+1/2}(S+I) \left(Y_{m,k}^{n+1} - Y_{m,k}^n + \kappa_2 \sigma \sin^2 \frac{\pi k}{M} Y_{m,k}^n \right) + \\ & + 2\kappa_1 B_{m+1/2}(S-I) (\alpha Y_{m,k}^{n+1} + \beta Y_{m,k}^n) - \\ & - i\kappa_2 \sin \frac{2\pi k}{M} C_{m+1/2}(S+I) (\alpha Y_{m,k}^{n+1} + \beta Y_{m,k}^n) = 0, \end{aligned} \quad (5.5)$$

where $k = 0, 1, \dots, M-1$.

Conditions (5.1') and (5.2') will be transformed, respectively, into conditions

$$\mu_0 Y_{0,k}^{n+1} = 0, \quad (5.6)$$

$$\nu_M Y_{M,k}^{n+1} = 0. \quad (5.7)$$

Thus, instead of a system of two-dimensional difference equations (5.3) we have obtained a system of one-dimensional difference equations for each k and have reduced the problem of investigating the stability of equations (5.1), (5.2), (5.3) to investigation of the stability of (5.5), (5.6), (5.7). The results of Section 3 are entirely applicable to the last equation, since system (5.5) may be transformed into the form (3.1). In Section 3 we considered a system with real matrices $a_{m+1/2}$ and $b_{m+1/2}$, we have assumed that the eigenvalues of the beam $a_{m+1/2} + \lambda b_{m+1/2}$ are real. This was done from methodological consideration, since system (3.1) was obtained by approximating the hyperbolic system of equations. However, all the results of Section 3 remain valid for complex matrices $a_{m+1/2}$ and $b_{m+1/2}$, with complex eigenvalues of the beam $a_{m+1/2} + \lambda b_{m+1/2}$. To convince ourselves that this is so we need only determine E_m by equation

$$E_m = V_m^* V_m$$

and automatically repeat all the mathematical steps. Therefore, if the conditions of Section 3 imposed on the matrices μ_0 , ν_M are satisfied, system (5.5), (5.6), (5.7) may be solved with respect to $Y_{m,k}^{n+1}$ and we can thereby determine the conversion operator from the n -th layer to the $n + 1$ -th layer.

This operator \mathcal{G}_k is linear in the space C^5_M and investigation of stability is reduced to investigation of the norms for the degrees of this operator. For this purpose we consider the spectrum of the operator \mathcal{G}_k .

By dropping the subscript k for the eigenvector of operator \mathcal{G} , we obtain the equations

$$A_{m+1/2} (S + I) \left[(z - 1 + \kappa_2 \sigma \sin^2 \frac{\pi k}{M}) Y_m \right] + 2\kappa_1 (az + \beta) B_{m+1/2} (S - I) Y_m - \quad (5.8)$$

$$- i\kappa_2 (az + \beta) \sin \frac{2\pi k}{M} C_{m+1/2} (S + I) Y_m = 0,$$

$$\mu_0 Y_0 = 0, \quad (5.9)$$

$$\nu_M Y_M = 0, \quad (5.10)$$

where z is the eigenvalue. Equation (5.8) may be written in condensed form as follows

$$a_{m+1/2} Y_{m+1} + b_{m+1/2} Y_m = 0,$$

where

$$\begin{aligned} a_{m+1/2} &= \left(z - 1 + \kappa_2 \sigma \sin^2 \frac{\pi k}{M} \right) A_{m+1/2} + 2\kappa_1 (az + \beta) B_{m+1/2} \\ &\quad - i\kappa_2 (az + \beta) \sin \frac{2\pi k}{M} C_{m+1/2}, \\ b_{m+1/2} &= \left(z - 1 + \kappa_2 \sigma \sin^2 \frac{\pi k}{M} \right) A_{m+1/2} - 2\kappa_1 (az + \beta) B_{m+1/2} \\ &\quad - i\kappa_2 (az + \beta) \sin \frac{2\pi k}{M} C_{m+1/2}. \end{aligned}$$

In order that the homogeneous system (5.8), (5.9), (5.10) have a non-trivial solution it is necessary that conditions (3.3) be violated. As follows

from the result of Section 6, conditions (3.3) will be satisfied beforehand with $\epsilon_m = CM^{-1}$ if

$$|z| > 1 + C_1 M^{-1},$$

where C and C_1 are suitable constants. Thus, the spectrum of the operator \mathcal{G} lies in the circle

$$|z| \leq 1 + C_1 M^{-1} = 1 + C_2 \tau,$$

i.e., the system is stable.

All these calculations are particularly simple for the difference approximation of the hyperbolic system of the first order

$$\frac{\partial X}{\partial t} + A(\xi) \frac{\partial X}{\partial \xi} = F. \quad (5.11)$$

Since the result is of independent interest we shall reproduce it here. Thus, we shall consider the boundary value problem for this system formulated at the beginning of Section 3. We shall assume that the matrices μ and ν are constant and satisfy the conditions of Section 3. With the difference approximation applied in the present work we obtain the system

$$\begin{aligned} (S + I) (X_m^{n+1} - X_m^n) + 2\kappa_1 A_{m+1/2} (S - I) (\alpha X_m^{n+1} + \beta X_m^n) &= 2\tau F_{m+1/2}^{n+1/2}, \\ \mu_0 X_0^{n+1} = g^{n+1}, \quad \nu_M X_M^{n+1} = h^{n+1}. \end{aligned}$$

By considering a homogeneous system and seeking, as above, the eigenvector of the conversion operator we obtain an equation for the eigenvector $\{X_m\}_{m=0}^M$

$$(z - 1) (S + I) X_m + 2\kappa_1 (\alpha z + \beta) A_{m+1/2} (S - I) X_m = 0$$

with homogeneous boundary conditions. In the expanded form, the last equation is written as follows

$$[(z - 1) I + 2\kappa_1 (\alpha z + \beta) A_{m+1/2}] X_{m+1} + [(z - 1) I - 2\kappa_1 (\alpha z + \beta) A_{m+1/2}] X_m = 0$$

or

$$a_{m+1/2} X_{m+1} + b_{m+1/2} X_m = 0.$$

The eigenvalues of the matrix beam

$$a_{m+1/2} - \lambda b_{m+1/2}$$

will be

$$\lambda = \frac{z-1+2\kappa_1(\alpha z+\beta)\omega}{z-1-2\kappa_1(\alpha z+\beta)\omega}, \quad (5.12)$$

where ω is the eigenvalue of the matrix $A_{m+1/2}$, and ω is real. Condition (3.3) will be violated if some of the moduli of these eigenvalues become equal to zero. The equation

$$\left| \frac{z-1+2\kappa_1(\alpha z+\beta)\omega}{z-1-2\kappa_1(\alpha z+\beta)\omega} \right| = 1$$

in the z plane determines a circumference of a circle

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$$\left| z - \frac{\alpha - \beta}{2\alpha} \right| = \frac{1}{2\alpha},$$

while the fractional-linear transformation (5.12) transforms the exterior of this circumference either into a circle

$$|\lambda| \leq 1,$$

or into the region outside this circle, depending on whether the following quantity is greater or less than unity

$$\left| \frac{1 + 2\kappa_1\omega}{1 - 2\kappa_1\omega} \right|.$$

Therefore, if

$$\left| z - \frac{\alpha - \beta}{2\alpha} \right| > \frac{1}{2\alpha},$$

inequalities (3.3) will be satisfied with the corresponding value ϵ_m . In order that we be able to take $\epsilon_m = CM^{-1}$ it is sufficient that

$$\left| z - \frac{\alpha - \beta}{2\alpha} \right| \geq \frac{1}{2\alpha} + c_1 M^{-1}$$

with a suitable constant C_1 . Thus, the spectrum of the conversion operator lies inside the circle

$$\left| z - \frac{\alpha - \beta}{2\alpha} \right| \leq \frac{1}{2\alpha} + C_1 M^{-1},$$

and the difference system is stable. It can be shown that for a family of transformation operators \mathfrak{G}_M , $M = M_0, M_0 + 1, \dots$, their spectra Λ_M are such that the set

$$\bigcup_{M=M_0}^{\infty} \Lambda_M$$

will be dense everywhere in the circle

$$\left| z - \frac{\alpha - \beta}{2\alpha} \right| \leq \frac{1}{2\alpha}.$$

We shall not investigate the stability of the iteration system at this time and will only note that the convergence of iterations is established trivially for equations with constant coefficients and that the investigations of stability by the Fourier method can be used to obtain the relationship between the steps of the mesh and the quantities σ , κ_2 and $\alpha - \beta$ which is quite useful in the calculations

$$\sigma(\alpha - \beta) \alpha \kappa_2 \geq (\alpha \kappa_2 \Omega)^{2Q+1},$$

$$\Omega = \frac{1}{r} \frac{uw + c \sqrt{u^2 + w^2 - c^2}}{u^2 - c^2}.$$

In conclusion we note that the proof of the stability of a difference system for a hyperbolic system may be generalized for the case when the matrix A depends not only on ξ but also on t .

6. Application to Equations of Gasdynamics

In this section we shall find in explicit form the conditions which /33 provide for the correctness of the system of difference equations and the stability of sweep and we shall also describe the method of solving the equations on the wave.

To condense future steps it is expedient to consider the bond of the matrices

$$\mathfrak{D} = \mathfrak{A}N_1 + \mathfrak{B}N_2 + \mathfrak{C}N_3, \quad (6.1)$$

where N_1 , N_2 and N_3 are arbitrary numbers not simultaneously equal to zero and

\mathfrak{A} , \mathfrak{B} , \mathfrak{C} are determined by equations (1.5). Let us compute $\det \mathfrak{D}$ and the right binding eigenvector $S(N_1, N_2, N_3)$, which we shall determine from the equality

$$\{\mathfrak{A}N_1 + \mathfrak{B}N_2 + \mathfrak{C}N_3\} S = 0$$

with the conditions

$$\det \mathfrak{D} = 0. \quad (6.2)$$

Condition (6.2) is the equation of the cone of characteristic normals for a system (1.4). Writing out \mathfrak{D} in explicit form we obtain

$$\mathfrak{D} = \begin{pmatrix} \Psi & 0 & 0 & \rho^{-1}N_1 & 0 \\ 0 & \Psi & 0 & \rho^{-1}N_2 & 0 \\ 0 & 0 & \Psi & \rho^{-1}N_3 r^{-1} & 0 \\ \rho c^2 N_1 & \rho c^2 N_2 & \rho c^2 N_3 r^{-1} & \Psi & 0 \\ \rho N_1 & \rho N_2 & \rho N_3 r^{-1} & 0 & \Psi \end{pmatrix}, \quad (6.3)$$

where $\Psi = N_1 u + N_2 v + N_3 r^{-1} w$,

$$\det \mathfrak{D} = \Psi^3 \{\Psi^2 - c^2 (N_1^2 + N_2^2 + N_3^2 r^{-2})\}. \quad (6.4)$$

When $c \neq 0$ equation (6.2) breaks into two parts corresponding to the two types of characteristic surfaces

$$\Psi^3 = 0, \quad (6.5a)$$

$$\Psi^2 - c^2 (N_1^2 + N_2^2 + N_3^2 r^{-2}) = 0. \quad (6.5b)$$

Now, let us assume that N_k ($k = 1, 2, 3$) satisfy (6.2) and \mathfrak{D} is the corresponding matrix (6.3). To find S we consider separately the case $\Psi \neq 0$ and $\Psi = 0$. If $\Psi \neq 0$ the rank of the matrix \mathfrak{D} equals four and consequently the subspace of the eigenvectors is one-dimensional. Simple calculations yield

$$S = \begin{Bmatrix} N_1 \\ N_2 \\ N_3 r^{-1} \\ -\rho \Psi \\ -\rho c^{-2} \Psi \end{Bmatrix}. \quad (6.6)$$

If $\Psi = 0$, the rank of matrix \mathfrak{D} is equal to two and consequently the space of eigenvectors is three-dimensional. The selection of bases in these subspaces may be carried out differently. For example, we may assume that /34

$$S^{(0)} = \begin{Bmatrix} 0 \\ 0 \\ 0 \\ 0 \\ 1 \end{Bmatrix}; \quad S^{(1)} = \begin{Bmatrix} q_1^{(1)} \\ q_2^{(1)} \\ q_3^{(1)} \\ 0 \\ 0 \end{Bmatrix}; \quad S^{(2)} = \begin{Bmatrix} q_1^{(2)} \\ q_2^{(2)} \\ q_3^{(2)} \\ 0 \\ 0 \end{Bmatrix}, \quad (6.7)$$

where $q_k^{(j)}$ are two linearly independent systems of numbers satisfying the condition

$$N_1 q_1^{(j)} + N_2 q_2^{(j)} + N_3 r^{-1} q_3^{(j)} = 0, \quad j = 1, 2.$$

In particular we may select $q_k^{(j)}$ in such a way that the equality

$$N_1 = \begin{vmatrix} q_2^{(1)} & q_2^{(2)} \\ q_3^{(1)} & q_3^{(2)} \end{vmatrix}; \quad N_2 = \begin{vmatrix} q_3^{(1)} & q_3^{(2)} \\ q_1^{(1)} & q_1^{(2)} \end{vmatrix}; \quad N_3 r^{-1} = \begin{vmatrix} q_1^{(1)} & q_1^{(2)} \\ q_2^{(1)} & q_2^{(2)} \end{vmatrix}; \quad (6.8)$$

$$q_1^{(1)} q_1^{(2)} + q_2^{(1)} q_2^{(2)} + q_3^{(1)} q_3^{(2)} = 0.$$

is satisfied. Then the base composed of the vectors $S^{(0)}$, $S^{(1)}$, $S^{(2)}$ will be orthogonal.

Now let us compute eigenvalues λ_k of the beam $a + \lambda b$ where a and b are determined by (2.8). Utilizing (1.17) and (2.8), we have

$$\det(a + \lambda b) = \det\{N_1 \mathfrak{A} + N_2 \mathfrak{B} + N_3 \mathfrak{C}\} = 0,$$

where

$$\begin{aligned} N_1 &= (1 + \lambda) + 2\alpha\kappa_1 (1 - \lambda) \xi_z, \\ N_2 &= 2\alpha\kappa_1 (1 - \lambda) \xi_r, \\ N_3 &= 2\alpha\kappa_1 (1 - \lambda) \xi_\varphi. \end{aligned} \quad (6.9)$$

Substituting (6.9) into (6.4) we obtain an equation for λ in explicit form. We note that its root cannot be $\lambda = 1$ since here $N_1 = 2$, $N_2 = N_3 = 0$ and (6.4) takes the form

$$8u^3 (4u^2 - 4c^2) = 0,$$

which is impossible if $u > c > 0$. In place of λ it is convenient to introduce

$$\zeta = \xi_z + \frac{1}{2\alpha\kappa_1} \frac{1 + \lambda}{1 - \lambda}, \quad (6.10)$$

so that

$$N_1 = 2\alpha\kappa_1 (1 - \lambda) \zeta. \quad (6.11)$$

For ζ we obtain

$$\begin{aligned} (\zeta u + \xi_r v + \xi_\varphi r^{-1} \omega)^3 &= 0, \\ (\zeta u + \xi_r v + \xi_\varphi r^{-1} \omega)^2 - c^2 (\zeta^2 + \xi_r^2 + \xi_\varphi^2 r^{-2}) &= 0. \end{aligned} \quad (6.12)$$

All solutions of (6.12) may be written by one formula

$$\zeta^{(0)} = \frac{-u (\xi_r v + \xi_\varphi r^{-1} \omega) + \theta c \sqrt{(\xi_r v + \xi_\varphi r^{-1} \omega)^2 + (u^2 - c^2) (\xi_r^2 + \xi_\varphi^2 r^{-2})}}{u^2 - \theta^2 c^2}, \quad (6.13)$$

where θ takes on the values $-1, 0, +1$. And the root $\zeta^{(0)}$ is of the third multiplicity factor. Noting that $u > c$, we obtain

$$\zeta^{(-1)} < \zeta^{(0)} < \zeta^{(1)}. \quad (6.14)$$

From (6.10) we find

$$\lambda^{(0)} = - \frac{1 - 2\alpha\kappa_1(\xi^{(0)} - \xi_z)}{1 + 2\alpha\kappa_1(\xi^{(0)} - \xi_z)},$$

consequently, $|\lambda^{(0)}| < 1$, if $\xi^{(0)} - \xi_z > 0$, and vice versa.

It follows from the results of Sections 3 and 4 that for a good determination of the system the eigenvalues $\lambda^{(0)}$ must include four whose modulus is less than unity. This is possible only if

$$\begin{aligned} |\lambda^{(1)}| < 1, \quad \xi^{(1)} - \xi_z > \xi^{(0)} - \xi_z > 0, \\ |\lambda^{(0)}| < 1, \\ |\lambda^{(-1)}| > 1, \quad \xi^{(-1)} - \xi_z < 0. \end{aligned} \quad (6.15)$$

In view of (6.14) it is necessary and sufficient that conditions $\xi^{(0)} - \xi_z > 0$,

$\xi^{(1)} - \xi_z < 0$, be satisfied, i.e.,

$$\xi_z - \xi^{(0)} = \xi_z + \xi_r \frac{v}{u} + \xi_\varphi r^{-1} \frac{\omega}{u} < 0 \quad (6.16)$$

and

$$\frac{(u^2 - c^2) \xi_z + u(\xi_r v + \xi_\varphi r^{-1} \omega) + c \sqrt{(\xi_r v + \xi_\varphi r^{-1} \omega)^2 + (u^2 - c^2)(\xi_r^2 + \xi_\varphi^2 r^{-2})}}{u^2 - c^2} > 0. \quad (6.17)$$

The geometric meaning of conditions (6.16), (6.17) is quite obvious for the case of axisymmetric flow when $w = 0$. It shows that at each meridian plane the inclination of the characteristics of the first family must be greater while the inclination of the streamlines and the characteristics of the second family are less than the inclination of the line $\xi = \text{const}$ at the same point. If $w \neq 0$ we should consider the lines of intersection with the meridian plane of the characteristic surfaces, the stream surface and the coordinate surface $\xi = \text{const}$ passing through the same line $\xi = \text{const}$, $x = \text{const}$.

As already pointed out in Section 1, a simple substitution of the form (1.15) may provide for the fulfillment of conditions (6.16) or (6.17). The position may be corrected by a substitution of the form

$$\tilde{\xi} = \frac{r-G}{F-G} \left\{ \Phi + (1 - \Phi) \frac{r-G}{F-G} \right\}, \quad (6.18)$$

where $\Phi = \Phi(x, \vartheta)$ is some function which can be selected by satisfying the stability conditions of sweep.

We also note that inequalities (3.3), which assume the form

$$|\lambda^{(-1)}| \geq (1 - \varepsilon)^{-1}; \quad |\lambda^{(0)}| < 1 - \varepsilon, \quad |\lambda^{(1)}| < 1 - \varepsilon,$$

will be satisfied if

$$\begin{aligned} |\zeta^{(0)} - \xi_z| &> K_1 \varepsilon, \\ |\zeta^{(\theta)} - \xi_z| &< K_2 \varepsilon^{-1}, \quad \theta = \pm 1. \end{aligned} \quad (6.19)$$

We can always satisfy (6.19) if

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$$\frac{u}{c} > 1 + K\varepsilon, \quad K > 0.$$

Now let us verify that the ratio of the Gram determinant constructed with the eigenvectors of the matrix $b^{-1}a$, to the product of the square of their length is limited from the bottom. Since the right and left eigenvectors of the matrix form conjugate bases, it is sufficient to perform the verification for only the right eigenvectors. Indeed, if

$$\gamma = |\gamma_{ik}|_{i,k=1}^n \quad \text{and} \quad \Gamma = |\Gamma_{ik}|_{i,k=1}^n$$

are the Gram determinants of the right and left eigenvectors, the following inequality exists

$$\left(\frac{\gamma}{\gamma_{11}\gamma_{22}\dots\gamma_{nn}} \right)^{n-1} \leq \frac{\Gamma}{\Gamma_{11}\Gamma_{22}\dots\Gamma_{nn}} \leq \left(\frac{\gamma}{\gamma_{11}\gamma_{22}\dots\gamma_{nn}} \right)^{\frac{1}{n-1}}. \quad (6.20)$$

To find the right eigenvectors of the matrix $b^{-1}a$, we utilize the condition that if $\lambda^{(\theta)}$ is some eigenvalue of the beam $a + \lambda b$, $-\lambda^{(\theta)}$ is some eigenvalue $b^{-1}a$, and consequently the right eigenvector satisfies the equations

$$b^{-1}a q^{(\theta)} = -\lambda^{(\theta)} q^{(\theta)} \quad \text{or} \quad (a + \lambda^{(\theta)} b) q^{(\theta)} = 0,$$

i.e., $q^{(\theta)}$ is the right eigenvector of the beam $a + \lambda b$, and consequently of the bond (6.1), corresponding to the values N_k determined by equations (6.9) and (6.11) when $\lambda = \lambda^{(\theta)}$. Since the eigenvectors are determined only with an

accuracy up to a constant factor, the matrix Q composed of them may be written in the following form

$$Q = \begin{pmatrix} \zeta^{(-1)} & q_1^{(1)} & 0 & q_1^{(2)} & \zeta^{(1)} \\ \xi_r & q_2^{(1)} & 0 & q_2^{(2)} & \xi_r \\ \xi_\varphi r^{-1} & q_3^{(1)} & 0 & q_3^{(2)} & \xi_\varphi r^{-1} \\ -\rho\psi^{(-1)} & 0 & 0 & 0 & -\rho\psi^{(1)} \\ -\rho c^{-2}\psi^{(-1)} & 0 & 1 & 0 & -\rho c^{-2}\psi^{(1)} \end{pmatrix}, \quad (6.21)$$

where $\psi^{(0)} = \zeta^{(0)}u + \xi_r v + \xi_\varphi r^{-1}w$ and $q_k^{(i)}$ satisfy (6.8) when

$$N_1 = \zeta^{(0)}, \quad N_2 = \xi_r, \quad N_3 = \xi_\varphi.$$

The first column of Q corresponds to $\lambda^{(-1)}$, the middle three to $-\lambda^{(0)}$ and the last corresponds to $\lambda^{(1)}$. Carrying out the calculations and taking into account (6.8) and (6.13), we obtain

$$\frac{\gamma}{\gamma_{11}\gamma_{22}\dots\gamma_{55}} = \frac{4\rho^2 c^2}{\left(1 + \rho^2 c^2 + \frac{\rho^2}{c^2}\right)} \cdot \frac{(\xi_r v + \xi_\varphi r^{-1}w)^2 + (u^2 - c^2)(\xi_r^2 + \xi_\varphi^2 r^{-2})}{(\xi_r v + \xi_\varphi r^{-1}w)^2 + u^2(\xi_r^2 + \xi_\varphi^2 r^{-2})}. \quad (6.22)$$

It follows from (6.20) and (6.22) that when $u/c > 1 + K\epsilon$ the quantities

$$\gamma(\gamma_{11}\gamma_{22}\dots\gamma_{55})^{-1} \text{ and } \Gamma(\Gamma_{11}\Gamma_{22}\dots\Gamma_{55})^{-1}$$

are limited from the bottom.

We must still consider the problem of solving the system (2.4) and (2.11') on the wave. We note first that from the structure of the matrices \mathfrak{A} , \mathfrak{B} , \mathfrak{C} and from the boundary condition on the body it follows that the last component of the vector μ_m is always equal to zero, i.e., ρ does not enter into the sweep relationships. Let us assume that μ_k ($k = 1, 2, 3, 4$) are nonzero components of μ_M (here and in the future we drop the subscripts M, i, n). Then the relationship (2.11') will be written in the form

$$\mu_1 u + \mu_2 v + \mu_3 w + \mu_4 p = g. \quad (6.23)$$

In addition to u, v, w, p, ρ, F_x we introduce the auxiliary variables $\tilde{u}, \tilde{v}, \tilde{w}, y_1, y_2$, determining them from the equations

$$\begin{aligned} u &= u_\infty + \tilde{u}, \quad v = v_\infty + \tilde{v}, \quad w = w_\infty + \tilde{w}, \\ y_1 &= V_\infty^2, \quad y_2 = V_\infty \sqrt{\tilde{u}^2 + \tilde{v}^2 + \tilde{w}^2}. \end{aligned} \quad (6.24)$$

We also designate

$$\tilde{g} = g - (\mu_1 u_\infty + \mu_2 v_\infty + \mu_3 w_\infty + \mu_4 p_\infty).$$

Then equations (2.4) and (6.23) after certain transformations may be written in the following form, broken down into three groups

$$\left. \begin{aligned} \mu_1 \tilde{u} + \mu_2 \tilde{v} + \mu_3 \tilde{w} &= \tilde{g} - \mu_4 \rho_\infty y_2, \\ u_\infty \tilde{u} + v_\infty \tilde{v} + w_\infty \tilde{w} &= -y_2, \\ \frac{F_\theta}{F} \tilde{v} + \tilde{w} &= 0, \\ \tilde{u}^2 + \tilde{v}^2 + \tilde{w}^2 &= \frac{y_2^2}{y_1}; \end{aligned} \right\} \quad (6.25)$$

$$\left. \begin{aligned} p &= p_\infty + \rho_\infty y_2, \\ \rho &= \rho_\infty \frac{y_1}{y_1 - y_2}, \\ h(p, \rho) &= h(p_\infty, \rho_\infty) + y_2 - \frac{1}{2} \frac{y_2^2}{y_1}; \end{aligned} \right\} \quad (6.26)$$

$$F_z = -\frac{\tilde{u}}{\tilde{v}}. \quad (6.27)$$

Equations (6.25) and (6.26) may be solved independently of equation (6.27). To do this we use the following method. We find $\tilde{u}, \tilde{v}, \tilde{w}$ from the first three equations of (6.25) as linear functions of y_2 and substitute them into the fourth equation. We obtain

$$y_1 \{a_0 y_2^2 + a_1 y_2 + a_2\} - a_3 y_2^2 = 0, \quad (6.28)$$

where

$$\left. \begin{aligned} a_0 &= [\mu_2 - F_\theta F^{-1} \mu_3 - \mu_4 \rho_\infty (v_\infty - F_\theta F^{-1} w_\infty)]^2 + (1 + F_\theta^2 F^{-2}) (\mu_4 \rho_\infty u_\infty - \mu_1)^2, \\ a_1 &= 2 \{ [\mu_2 - F_\theta F^{-1} \mu_3 - \mu_4 \rho_\infty (v_\infty - F_\theta F^{-1} w_\infty)] (v_\infty - F_\theta F^{-1} w_\infty) - \\ &\quad - (1 + F_\theta^2 F^{-2}) (\mu_4 \rho_\infty u_\infty - \mu_1) u_\infty \} \tilde{g}, \\ a_2 &= [(v_\infty - F_\theta F^{-1} w_\infty)^2 + (1 + F_\theta^2 F^{-2}) u_\infty^2] \tilde{g}^2, \\ a_3 &= [\mu_1 (v_\infty - F_\theta F^{-1} w_\infty) - \mu_2 u_\infty + \mu_3 F_\theta F^{-1} u_\infty]^2. \end{aligned} \right\} \quad (6.29)$$

The second equation which relates y_1 and y_2 can be obtained if we substi- /38

tute the values p , ρ from the first two equations (6.26) into the third. If the gas before and behind the shock wave front has a constant ratio of specific heats k_∞ and k , the substitution may be carried out explicitly. In this case

by noting that $h = \frac{k}{k-1} \frac{p}{\rho}$ we can obtain the following expression from (6.26)

$$y_1 = \frac{y_2 \left(\frac{k+1}{2} y_2 + k \frac{p_\infty}{\rho_\infty} \right)}{y_2 + \frac{k_\infty - k}{k_\infty - 1} \frac{p_\infty}{\rho_\infty}}. \quad (6.30)$$

Substituting y_1 from (6.30) into (6.28), we obtain a cubic equation for y_2 (the obvious root $y_2 = 0$ is dropped)

$$(a_0 y_2^2 + a_1 y_2 + a_2) \left(\frac{k+1}{2} y_2 + k \frac{p_\infty}{\rho_\infty} \right) - a_3 y_2 \left(y_2 + \frac{k_\infty - k}{k_\infty - 1} \frac{p_\infty}{\rho_\infty} \right) = 0. \quad (6.31)$$

Having found y_2 from this equation, it is easy to determine the unknowns.

Proceeding with the investigation of equation (6.31) we note first that we can attribute a physical meaning only to the positive value of y_2 which follows from the first equation (6.26) (when $y_2 < 0$ we obtain a rarefaction shock wave). Furthermore, since a_0 and a_2 are positive, equation (6.31) has either two positive roots or none. We shall show that the first possibility is always realized. For this purpose we clarify the meaning of (6.23). From results of Section 4 it follows that when we have a sufficiently large number of points for ξ the vector μ will be arbitrarily close to the left eigenvector of matrix $b^{-1}a$, corresponding to the eigenvalue $\lambda^{(-1)}$. We shall assume that the number of points is so large that the difference between these vectors is negligible. Then μb^{-1} will be the left eigenvector of the beam $a + \lambda b$, and consequently of the bond (6.1), corresponding to the values $N_k = N_k^{(-1)}$. It follows from this (ref. 18) that having multiplied the system (1.4) at the left side by the vector μb^{-1} , we obtain a characteristic relationship in the plane with the normal $\{(N_1^{(-1)}, N_2^{(-1)}, N_3^{(-1)})\}$. This is the plane which passes through the tangent to the line intersecting the shock wave with the plane $x = \text{const}$. Since the characteristic

relationship is invariant with respect to the substitution of variables, we obtain the same result if we multiply the system (1.16) by μb^{-1} . If we replace the differential equations (1.16) by the difference equations (2.2) and multiply them by μb^{-1} , we obtain the characteristic relationship in the difference form. Since the coefficient of $X_{M,l}^{n+1}$ in equations (2.2) is equal to a , after multiplication by μb^{-1} it becomes equal to $-\lambda^{(-1)}_{\mu}$. Thus, with an accuracy up to a constant factor, the coefficient of $X_{M,l}^{n+1}$ in the characteristic relationship, written in the difference form, coincides with the coefficient of $X_{M,l}^{n+1}$ in (2.11').

From the uniqueness of the characteristic relationship in the considered plane it follows that the sweep relationship is some difference recording of the characteristic relationship.

It is easy to show that in the considered case the conditions on the wave, together with the characteristic relationship, determine two values $X_{M,l}^{n+1}$, corresponding to positive roots of (6.31). To determine which of the roots /39 should be taken we consider the case of a weak wave when the values V , p , ρ behind the front differ from the values in the unperturbed flow by small amounts of the order ϵ . In this case the quantity \tilde{g} will also be of the order ϵ as well as the unknown root y_2 . Let us find in explicit form the components of the left eigenvector of the matrix $b^{-1}a$, corresponding to the eigenvalue $|\lambda^{-1}| > 1$. They will form the first line of the matrix Q^{-1} . Computing it we find

$$\{Q^{-1}\}_{1,k} = -(\det Q)^{-1} \{\zeta^{(0)}, \xi_r, \xi_\phi r^{-1}, \rho^{-1} [\psi^{(1)}]^{-1} \cdot (\zeta^{(0)} \zeta^{(1)} + \xi_r^2 + \xi_\phi^2 r^{-2}), 0\}.$$

Substituting the values of $\zeta^{(\theta)}$ from (6.13) and noting that the vector μ is determined with an accuracy up to a constant factor, we can write

$$\left. \begin{aligned} \mu_1 &= v + \left(\frac{\xi_\phi}{r \xi_r} \right)_{\xi=1} w, \\ \mu_2 &= -u, \\ \mu_3 &= - \left(\frac{\xi_\phi}{r \xi_r} \right)_{\xi=1} u, \\ \mu_4 &= - \frac{1}{\rho c} \sqrt{\left(v + \frac{\xi_\phi}{r \xi_r} w \right)^2 + (u^2 - c^2) \left(1 + \frac{\xi_\phi^2}{r^2 \xi_r^2} \right)} \Big|_{\xi=1}. \end{aligned} \right\} \quad (6.32)$$

In the general case equations (6.32) are valid for a wave of any strength and u, v, w, ρ, c are the values of the quantities behind the front. If we assume equation (1.15) for ξ , we have

$$\frac{\xi_\varphi}{r\xi_r} = -\frac{F_\vartheta}{F}.$$

By taking this into account, equation (6.31) for a weak wave takes the form (in this case we may assume that $k = k_\infty$)

$$[\alpha_0 + O(\epsilon)] y_2^3 + [O(\epsilon)] y_2^2 + [\alpha_2 + O(\epsilon)] \tilde{g} y_2 + \alpha_3 \tilde{g}^2 = 0,$$

where α_0, α_2 and α_3 are positive quantities which are not equal to zero

$$\begin{aligned} \alpha_0 &= \frac{k_\infty + 1}{2c_\infty^2} \{ (1 + F_\vartheta^2 F^{-2}) u_\infty^2 + (v_\infty - F_\vartheta F^{-1} w_\infty)^2 \}, \\ \alpha_2 &= 2c_\infty [(1 + F_\vartheta^2 F^{-2}) u_\infty^2 + (v_\infty - F_\vartheta F^{-1} w_\infty)^2] [(1 + F_\vartheta^2 F^{-2}) (u_\infty^2 - c_\infty^2) + \\ &\quad + (v_\infty - F_\vartheta F^{-1} w_\infty)^2]^{1/2}, \\ \alpha_3 &= [(1 + F_\vartheta^2 F^{-2}) u_\infty^2 + (v_\infty - F_\vartheta F^{-1} w_\infty)^2] c_\infty^2. \end{aligned}$$

Noting that $\tilde{g} = O(\epsilon)$, we find that for y_2 we have the following possibilities

$$\begin{aligned} y_2^{(0)} &\approx -\frac{\alpha_3}{\alpha_2} \tilde{g}, \\ y_2^{(\pm 1)} &= \pm \sqrt{-\frac{\alpha_2}{\alpha_0} \tilde{g}}. \end{aligned}$$

Above we have seen that this equation must have two positive roots: y_2^0 40 and $y_2^{(1)}$, i.e., we must have $\tilde{g} < 0$. The only root of the order of ϵ will be the smallest positive root. In the general case we should take it. We note that fulfillment of condition $\tilde{g} < 0$ for a weak wave may be established directly.

7. Calculation of Conic Flows

Let us consider the question of determining flow in region I (Section 1) for a pointed body. Since the body in a sufficiently small region near the point may be considered conic, the flow in this region will also be conic with a high degree of accuracy. Therefore, in this case region I may be considered

as the region of conic flow and the problem of finding the initial data on the surface S is reduced to the computation of the conic flow. As we know, the flow near an infinite cone is self-similar, i.e., the unknown functions depend only on two variables which are known combinations of the initial data. For these variables we can use the variables determined in Section 1 by equations (1.13) and (1.15). The unknown functions will then satisfy the system (1.16) with auxiliary condition

$$\frac{\partial X}{\partial x} = 0 \quad (7.1)$$

and boundary conditions (1.9), (1.11).

To apply the above method to the solution of this problem, we use considerations predicted by the physical nature of the problem. In the case of flow around the body which differs from an infinite cone only in a certain neighborhood of the apex, the flow at large distances from it will be close to conic. However, the values of the hydrodynamic quantities on the body, generally speaking, will never be close to those which exist in conic flow, since the entropy along the stream line lying on the surface of the body retains the value which was formed due to the flow around the nose. Therefore, we can assume that the solution $X(x, \xi, \vartheta)$ of the flow problem, when $x \rightarrow \infty$, will tend to the solution of the problem involving the flow around an infinite cone, even though in a nonuniform fashion. Similarly, we may assume that the solution X of the mixed problem formulated in Section 1 with initial data for $x = x_0$, $X = X_0$,

satisfying only the boundary conditions on the wave and on the body, will tend to the solution of the flow around the cone when $x \rightarrow \infty$, if the surface of the body is conic at $x \geq x_0$. From this it is clear how we must apply the numerical

algorithm presented above to the calculation of conic flows. We assign at

$x = x_0$ the initial value of the vector $X_{m,l}^{(0)}$, which satisfies the above requirements and we compute $X_{m,l}^{(n)}$ until the inequality

$$\|X_{m,l}^{(n)} - X_{m,l}^{(n-n_0)}\| < \epsilon, \quad (7.2)$$

is satisfied. Here n_0 and ϵ are the assigned values. The established vector

$X_{m,l}^{(n)}$ gives the solution for the problem of flow around the cone. The final

criterion for the correctness of the values $X_{m,l}^{(n)} \equiv X_{m,l}$ obtained in this fashion

is the condition that it satisfy the differential equations and the boundary conditions with an error which is permitted in the approximation. A large number of calculations, some of which are presented in Chapter III of the /41

present work, confirm the convergence of $X_{m,l}^{(n)}$ (when $n \rightarrow \infty$) to the sought solution.

This confirms the considerations which served as the basis for this method of calculation which is usually known as the direct method. In this case, for the difference equations, the nonuniform convergence near the surface of the body which has been indicated above is manifested by the fact that the establishment of the function values on the surface takes place more slowly than in the remaining region. However, it is significant that the correct values of entropy are established on the body, regardless of its distribution at the beginning. This is because differential equations of the streamlines flowing from the wave approach asymptotically the surface of the body, whereas in difference equations perturbations of entropy are transmitted from the shock wave to the body during a finite number of steps along coordinate x . We note that even when we have data which differ substantially from the sought solution, the solution is established during the time close to a minimum. The evaluation of the minimum time can be easily made proceeding from the physical picture for the propagation of perturbations in the flow. This shows that the self-similar solution has the remarkable property of strong attraction.

The direct method may be considered a certain iteration process for solving self-similar equations of conic flow. Its advantage compared to other iteration methods is that it has a clear physical meaning. This not only guarantees its convergence for a large number of problems but also makes it much easier to control the computation process.

The considered self-similar solution has singularities which must be taken into account during numerical solution. The basic one of these is associated with the behavior of the lines giving the level of the entropy function.

For convenience of investigation we transform to spherical coordinates (r, θ, φ) with the origin at the apex of the cone. We let u_r, u_θ, u_φ designate the components of the velocity vector along the coordinate axes. Since the hydrodynamic quantities do not depend on r , it is sufficient to consider the flow picture when $r = 1$, i.e., on a unit sphere. The consideration of simple cases, such as, for example, the flow around a circular cone with an angle of attack, shows that in the region of the perturbed flow there will always be points at which the entropy has singularities (ref. 20). At such a point the entropy cannot be differentiated and an infinite number of level lines S converge there. The equation for the conservation of entropy has the form

$$u_\theta \frac{\partial S}{\partial \theta} + \frac{u_\varphi}{\sin \theta} \frac{\partial S}{\partial \varphi} = 0. \quad (7.3)$$

Therefore, the coordinates of the singular point must satisfy the system of equations

$$u_\theta = 0, \quad \frac{u_\varphi}{\sin \theta} = 0. \quad (7.4)$$

Let us find the conditions necessary so that the point A, whose coordinates θ_0, φ_0 satisfy the system (7.4), be a singular point. We take the equations for the conic flow in the form

$$Du_r - (u_\theta^2 + u_\varphi^2) = 0, \quad (7.5)$$

$$Du_\theta + u_r u_\theta - \operatorname{ctg} \theta u_\varphi^2 + \frac{1}{\rho} \frac{\partial p}{\partial \theta} = 0, \quad (7.6)$$

$$Du_\varphi + u_r u_\varphi + \operatorname{ctg} \theta u_\theta u_\varphi + \frac{1}{\rho \sin \theta} \frac{\partial p}{\partial \varphi} = 0, \quad (7.7)$$

$$\frac{1}{kp} Dp + \frac{\partial u_\theta}{\partial \theta} + \frac{1}{\sin \theta} \frac{\partial u_\varphi}{\partial \varphi} + 2u_r + \operatorname{ctg} \theta u_\theta = 0, \quad (7.8)$$

$$\frac{u_r^2 + u_\theta^2 + u_\varphi^2}{2} + \frac{k}{k-1} \frac{p}{\rho} = i_0, \quad (7.9)$$

where D is the spherical component of the operator $r \left(u \frac{\partial}{\partial x} + v \frac{\partial}{\partial y} + w \frac{\partial}{\partial z} \right)$:

$$D = u_\theta \frac{\partial}{\partial \theta} + \frac{u_\varphi}{\sin \theta} \frac{\partial}{\partial \varphi}.$$

If at point A u_θ and u_φ can be differentiated continuously it follows from (7.6) and (7.7) that p can also be differentiated continuously. Therefore, it follows from (7.8) that u_r is continuous at point A and that the Bernoulli integral is valid and that density ρ is also continuous. Therefore, entropy S is continuous at point A. Lines for the entropy level are the characteristics (7.3) and are determined by the equation

$$\frac{d\theta}{u_\theta} = \frac{\sin \theta d\varphi}{u_\varphi}.$$

Therefore, point A for this equation may only be the saddle. Let us assume that

$$\begin{aligned} u_\theta &= \alpha (\theta - \theta_0) + \beta (\varphi - \varphi_0) + o(|\theta - \theta_0| + |\varphi - \varphi_0|), \\ \frac{1}{\sin \theta} u_\varphi &= \gamma (\theta - \theta_0) + \delta (\varphi - \varphi_0) + o(|\theta - \theta_0| + |\varphi - \varphi_0|). \end{aligned}$$

Consequently, the eigenvalues λ_1, λ_2 of the matrix

$$\begin{pmatrix} \alpha & \beta \\ \gamma & \delta \end{pmatrix}$$

are real and have different signs. Taking into account the equality

$$\lambda_1 \lambda_2 = \begin{vmatrix} \alpha & \beta \\ \gamma & \delta \end{vmatrix},$$

we conclude that

$$\left. \frac{\partial (u_\theta, u_\varphi)}{\partial (\theta, \varphi)} \right|_A < 0 \quad (7.10)$$

We now show that under certain valid assumptions an inequality opposite to inequality (7.10) is realized at the point of entropy discontinuity. Let us assume that in the neighborhood of point $A(\theta_0, \varphi_0)u_0$ and $\frac{u_\varphi}{\sin \theta}$ can be represented in the form

$$\left. \begin{aligned} u_\theta &= (\alpha (\theta - \theta_0) + \beta (\varphi - \varphi_0)) g(\theta, \varphi) + g_1(\theta, \varphi), \\ \frac{u_\varphi}{\sin \theta} &= (\gamma (\theta - \theta_0) + \delta (\varphi - \varphi_0)) g(\theta, \varphi) + g_2(\theta, \varphi), \end{aligned} \right\} \quad (7.11)$$

where g is a limited function whose derivatives satisfy the inequalities

$$\frac{\partial g}{\partial \theta} = O\left(\frac{1}{|\theta - \theta_0|}\right); \quad \frac{\partial g}{\partial \varphi} = O\left(\frac{1}{|\varphi - \varphi_0|}\right),$$

while the functions g_i $i = 1, 2$ are such that

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$$\begin{aligned} g_i &= O((\theta - \theta_0)^2 + (\varphi - \varphi_0)^2), \\ \frac{\partial g_i}{\partial \theta} &= O\left(\frac{(\theta - \theta_0)^2 + (\varphi - \varphi_0)^2}{|\theta - \theta_0|}\right), \\ \frac{\partial g_i}{\partial \varphi} &= O\left(\frac{(\theta - \theta_0)^2 + (\varphi - \varphi_0)^2}{|\varphi - \varphi_0|}\right). \end{aligned}$$

We shall measure the angle φ from point A and assume that

$$\vartheta = \theta - \theta_0, \quad \sigma^2 = (\theta - \theta_0)^2 + \varphi^2.$$

It follows from (7.6) and (7.7) that when $0 < \left| \frac{\vartheta}{\varphi} \right| < \infty$

$$\frac{\partial p}{\partial \theta} = O(\sigma),$$

$$\frac{\partial p}{\partial \varphi} = O(\sigma).$$

Therefore (7.8) gives us

$$\frac{\partial u_0}{\partial \theta} + \frac{1}{\sin \theta} \frac{\partial u_\varphi}{\partial \varphi} + 2u_r = O(\sigma)$$

or on the basis of (7.11),

$$(\alpha + \delta)g + 2u_r + (\alpha\vartheta + \beta\varphi) \frac{\partial g}{\partial \theta} + (\gamma\vartheta + \delta\varphi) \frac{\partial g}{\partial \varphi} = O(\sigma). \quad (7.12)$$

Equation (7.5) involves the relationship

$$g \left[(\alpha\vartheta + \beta\varphi) \frac{\partial u_r}{\partial \theta} + (\gamma\vartheta + \delta\varphi) \frac{\partial u_r}{\partial \varphi} \right] + O(\sigma^2) = 0.$$

Therefore, $u_r = f + O(\sigma)$, where $f > 0$ satisfies the equation

$$(\alpha\vartheta + \beta\varphi) \frac{\partial f}{\partial \theta} + (\gamma\vartheta + \delta\varphi) \frac{\partial f}{\partial \varphi} = 0. \quad (7.13)$$

Since the function g is determined with an accuracy to $O(\sigma)$, we can satisfy (7.12) by subjecting g to the condition

$$(\alpha\vartheta + \beta\varphi) \frac{\partial g}{\partial \theta} + (\gamma\vartheta + \delta\varphi) \frac{\partial g}{\partial \varphi} + (\alpha + \delta)g + 2f = 0. \quad (7.14)$$

Equation (7.14) has a single limited solution

$$g = -\frac{2}{\alpha + \delta} f.$$

Indeed, let us reduce the matrix $a = \begin{pmatrix} \alpha & \beta \\ \gamma & \delta \end{pmatrix}$ by a nonsingular transformation Q to the upper triangular form

$$\begin{pmatrix} \lambda_1 & 0 \\ \mu & \lambda_2 \end{pmatrix},$$

where λ_1, λ_2 are the eigenvalues of the matrix a . If λ_1 and λ_2 are different, $\mu = 0$. We note that /44

$$\lambda_1 + \lambda_2 = \alpha + \delta.$$

Transformation of the Q determines the linear transformation of the coordinates ϑ, φ to the variables ξ_1, ξ_2 in terms of which equations (7.13) and (7.14) take on the form

$$\lambda_1 \xi_1 \frac{\partial f}{\partial \xi_1} + (\mu \xi_1 + \lambda_2 \xi_2) \frac{\partial f}{\partial \xi_2} = 0, \quad (7.13')$$

$$\lambda_1 \xi_1 \frac{\partial g}{\partial \xi_1} + (\mu \xi_1 + \lambda_2 \xi_2) \frac{\partial g}{\partial \xi_2} + (\lambda_1 + \lambda_2) g + 2f = 0. \quad (7.14')$$

It follows that when $\mu = 0$ and

$$g = -\frac{2}{\lambda_1 + \lambda_2} f + \frac{h}{\xi_1 \xi_2},$$

where h satisfies (7.13'). When $\mu \neq 0$, $\lambda_1 = \lambda_2$

$$g = -\frac{2}{\lambda_1 + \lambda_2} f + \frac{h}{\xi_1^2}.$$

Since according to the proposition g is limited, $h \equiv 0$, which was to be proved.

We now show that the following is always true

$$\lambda_1 = \lambda_2 \text{ and } \mu = 0,$$

i.e., that matrix a is proportional to the unit matrix. Utilizing (7.11) and the form of the function g , we have

$$Du_\theta = g^2 [\alpha (\alpha \vartheta + \beta \varphi) + \beta (\gamma \vartheta + \delta \varphi)] + O(\sigma^2),$$

$$D \frac{u_\varphi}{\sin \theta} = g^2 [\gamma (\alpha \vartheta + \beta \varphi) + \delta (\gamma \vartheta + \delta \varphi)] + O(\sigma^2).$$

Therefore, from (7.6) and (7.7) we obtain

$$\frac{\partial \rho}{\partial \theta} + \frac{1}{2} \rho g^2 [(\alpha^2 - \alpha \delta + 2\beta \gamma) \vartheta + \beta (\alpha + \delta) \varphi] + O(\sigma^2) = 0,$$

$$\frac{1}{\sin^2 \theta} \frac{\partial \rho}{\partial \varphi} + \frac{1}{2} \rho g^2 [\gamma (\alpha + \delta) \vartheta + (-\alpha \delta + 2\beta \gamma + \delta^2) \varphi] + O(\sigma^2) = 0.$$

From the last equations it follows that the first derivatives of p are continuous at point A. Let $p_0 = p(\theta_0, 0)$. From (7.9) we obtain

$$\rho = \frac{k}{k-1} \frac{p_0}{i_0 - \frac{f^2}{2}} + O(\sigma) = \rho_0(\theta, \varphi) + O(\sigma),$$

where ρ_0 satisfies (7.13). Therefore

$$\begin{aligned} \frac{\partial \rho}{\partial \theta} + \frac{1}{2} \rho_0 g^2 [(\alpha^2 - \alpha\delta + 2\beta\gamma)\vartheta + \beta(\alpha + \delta)\varphi] + O(\sigma^2) &= 0, \\ \frac{\partial \rho}{\partial \varphi} + \frac{\sin^2 \theta_0}{2} \rho_0 g^2 [\gamma(\alpha + \delta)\vartheta + (-\alpha\delta + 2\beta\gamma + \delta^2)\varphi] + O(\sigma^2) &= 0. \end{aligned}$$

Differentiating the first equation with respect to φ and the second with respect to θ and subtracting the second from the first, we obtain /45

$$\begin{aligned} \frac{\rho_0 g^2}{2} [(\alpha + \delta)(\beta - \sin^2 \theta_0 \gamma)] + \frac{1}{2} [(\alpha^2 - \alpha\delta + 2\beta\gamma)\vartheta + \beta(\alpha + \delta)\varphi] \frac{\partial}{\partial \varphi} \rho_0 g^2 - \\ - \frac{\sin^2 \theta_0}{2} [\gamma(\alpha + \delta)\vartheta + (-\alpha\delta + 2\beta\gamma + \delta^2)\varphi] \frac{\partial}{\partial \theta} \rho_0 g^2 + O(\sigma) = 0 \end{aligned}$$

when $0 < \left| \frac{\vartheta}{\varphi} \right| < \infty$. Since $\rho_0 g^2$ satisfies (7.13), the last relationship involves

$$\begin{aligned} \alpha^2 - \alpha\delta + 2\beta\gamma &= 0, & \beta(\alpha + \delta) &= 0, \\ \gamma(\alpha + \delta) &= 0, & -\alpha\delta + 2\beta\gamma + \delta^2 &= 0. \end{aligned}$$

Thus,

$$\beta = \gamma = 0, \quad \alpha = \delta.$$

Therefore, equation (7.13) will take the form

$$(\theta - \theta_0) \frac{\partial f}{\partial \theta} + \varphi \frac{\partial f}{\partial \varphi} = 0,$$

i.e.,

$$\begin{aligned} f(\theta, \varphi) &= f\left(\frac{\varphi}{\theta - \theta_0}\right) = f(\xi), \\ \xi &= \frac{\varphi}{\theta - \theta_0}. \end{aligned}$$

It follows that in the neighborhood of point A the components of velocity, pressure and density may be represented in the form

$$\left. \begin{aligned} u_r &= f(\xi) + O(\sigma), \\ u_\theta &= -(\theta - \theta_0) f(\xi) + O(\sigma^2), \\ u_\varphi &= -\varphi \sin \theta f(\xi) + O(\sigma^2), \\ \rho &= \rho_0 + O(\sigma^3), \\ \rho &= \frac{k}{k-1} \frac{\rho_0}{i_0 - \frac{f_2(\xi)}{2}} + O(\sigma). \end{aligned} \right\} \quad (7.15)$$

Utilizing (7.15) we find that in the neighborhood of point A

$$\frac{\partial(u_\theta, u_\varphi)}{\partial(\theta, \varphi)} = \sin \theta f^2(\xi) + O(\sigma),$$

from which it follows that regardless of the method used to approach point A, all limiting values of the Jacobian will be positive. Therefore, we need not concern ourselves with the specific limiting value. Thus, if point A is singular, (7.4) is valid and

$$\left. \frac{\partial(u_\theta, u_\varphi)}{\partial(\theta, \varphi)} \right|_A > 0. \quad (7.16)$$

Conditions (7.4) and (7.16) are not only necessary but are sufficient because inequality (7.10) is satisfied at the nonsingular point.

Let us apply the obtained results to the simplest case of flow around ^{/46} a circular cone with an angle of attack. On the directrix of the cone (which according to the arrangement adopted above is a curve on the unit sphere) the normal component of the velocity vector is equal to zero. Therefore, those points where the tangential component also becomes equal to zero may be singularities of the entropy. The flow around a circular cone is symmetric with respect to some plane. Therefore, two points exist on the surface of the cone where equations (7.4) are satisfied. Condition (7.10) is satisfied on the windward side and therefore this point will be the saddle. The second point lying on the leeward side will be the node. The behavior of the solution in the neighborhood of the entropy singularity was taken into account when the difference system was written. Specifically, in the equations for approxi- ^{/47} mating the derivatives various values of quantities at the singular point were introduced depending on the direction of differentiation. The tables of Chapter III show the values of hydrodynamic quantities corresponding to the approach of the singular point in directions tangential and normal to the surface of the cone. In the calculations presented, the singular point is always situated on the cone surface. The question of whether it can exist in the flow remains open.

We have not been concerned with other singularities of the equations for conic flows, such as, for example, the change in the type of equations and the parabolic nature of the lines during certain modes of flow. In the given method

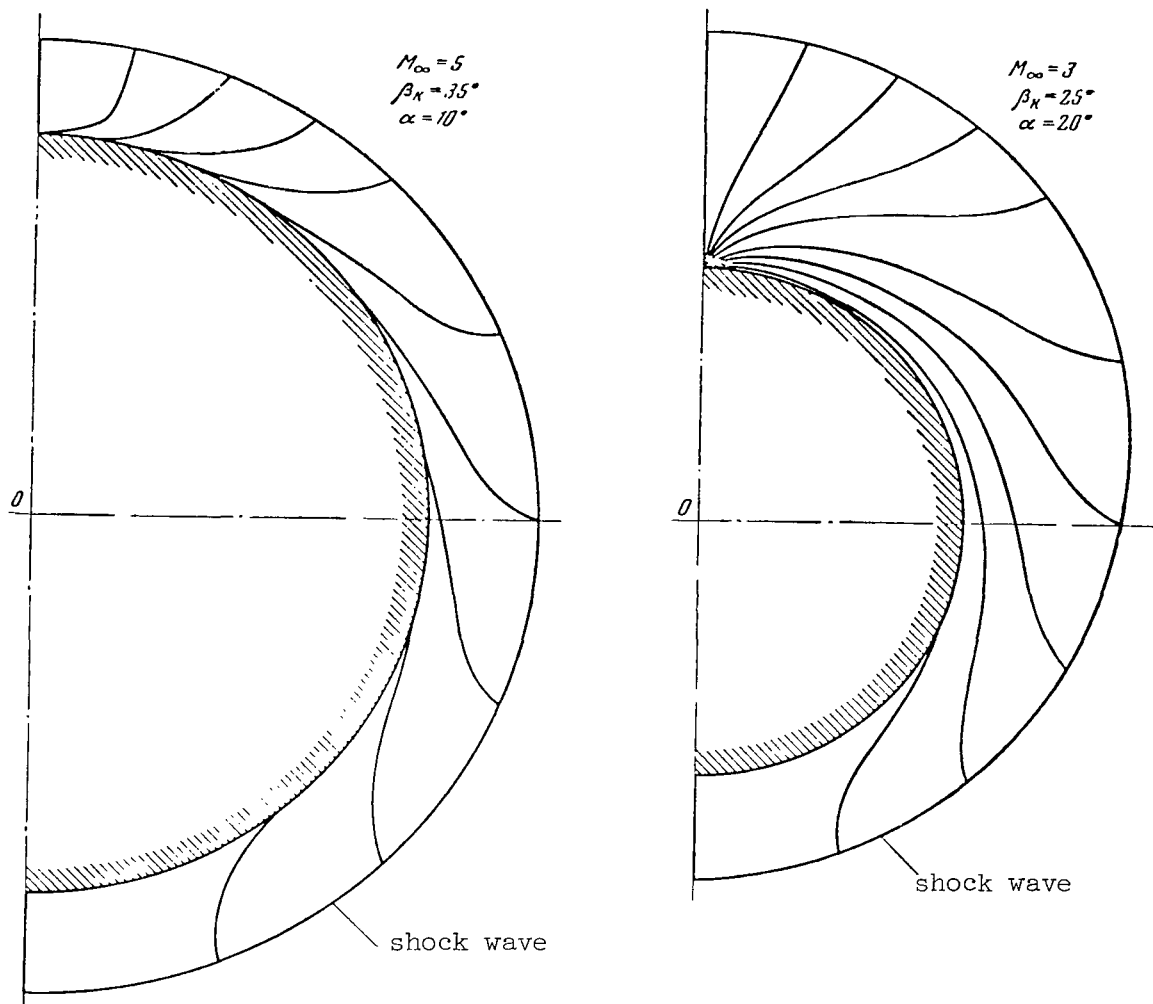


Figure 2. Line showing level of entropy function for the case of flow around the cone.

of solution we can ignore these singularities completely, whereas for other methods of computation these are the fly in the ointment (ref. 10). As we have shown in Section 1, to apply the direct method it is sufficient that the flow be supersonic, which makes the equations hyperbolic.

8. Computation of Thermodynamic Functions of Air Taking into Account Equilibrium Chemical Reactions

The motion of a body in a gas with a high supersonic velocity, as a rule, is associated with the origin of flow regions in which the gas has a high temperature (of the order of several thousands and even tens of thousands of degrees). In these regions a whole series of physical and chemical processes

takes place such as the excitation of the internal degrees of freedom of the molecules, dissociation, ionization, and formation of new chemical compounds. Thus, for example, in air which consists basically of a mixture of nitrogen, oxygen and argon, in addition to the reactions of ionization and dissociation

there is a formation of nitrogen oxide NO , NO^+ , etc. The physical and chemical processes have a substantial effect on the gas flow and it is necessary to consider them in the calculations. However, the solution of this problem over the entire volume is associated with great difficulties which are not only technical but are also of a theoretical nature. Indeed, the physical and chemical theory governing the flow of a reacting gas mixture is currently only in the stage of development, to say nothing of the accurate mathematical formulation of the problem.

For practical purposes, in many cases it is possible to apply the idealized theory based on certain simplifying assumptions which make it possible to formulate and solve the problem. Naturally any idealization is only suitable for a definite class of problems and its suitability must be verified experimentally. For the calculation of the external flow around bodies at high Mach numbers of the unperturbed flow a simplifying assumption of this type is the condition of local thermodynamic equilibrium. As a result of this assumption the molar composition of the mixture and all the thermodynamic functions (energy, enthalpy, entropy, etc.) are determined independently for each macroscopic gas particle as known functions of the gas parameters such as pressure and density. Enthalpy h and speed of sound c are obtained by solving a system of equilibrium thermodynamic equations. All this pertains to conditions on the shock wave, where in accordance with this assumption we can neglect the relaxation region behind the shock front.

Before writing the system of equations for thermodynamic equilibrium /48 we introduce a series of designations. Limiting ourselves to the case of a single stage ionization of molecules and atoms we obtain 13 possible components of

the air O_2 , O , N_2 , N , NO , Ar , O_2^+ , O^+ , N_2^+ , N^+ , NO^+ , Ar^+ , e^- . Here the super-

script "+" designates the ionized particles, while e^- designates the electrons. We number all components in the order in which we have written them and designate for the i -th component: x_i --the relative molar concentration; $H_i(T)$ --

enthalpy of one mol; μ_i --molecular weight.

The equation system for thermodynamic equilibrium associates the quantities x_i , p , ρ , T and consists of the following equations: for Dalton's law

$$\sum x_i = 1; \quad (8.1)$$

for material balance¹

¹For the volumetric composition of air under normal conditions: nitrogen, 78.08 percent; oxygen, 20.95 percent; argon, 0.97 percent.

$$\frac{2x_1 + x_2 + x_5 + 2x_7 + x_8 + x_{11}}{2x_3 + x_4 + x_6 + 2x_9 + x_{10} + x_{11}} = 3.727, \quad (8.2)$$

$$\frac{x_6 + x_{12}}{2x_1 + x_4 + x_5 + 2x_7 + x_8 + x_{11}} = 0.02315; \quad (8.3)$$

for the law of acting masses associated with the reactions of dissociation, formation of NO and ionization

$$x_2^2 p - K_1(T) x_1 = 0, \quad (8.4)$$

$$x_4^2 p - K_2(T) x_3 = 0, \quad (8.5)$$

$$x_6 - K_3(T) \sqrt{x_1 x_3} = 0, \quad (8.6)$$

$$x_7 x_{13} p - K_4(T) x_1 = 0, \quad (8.7)$$

$$x_8 x_{13} p - K_5(T) x_2 = 0, \quad (8.8)$$

$$x_9 x_{13} p - K_6(T) x_3 = 0, \quad (8.9)$$

$$x_{10} x_{13} p - K_7(T) x_4 = 0, \quad (8.10)$$

$$x_{11} x_{13} p - K_8(T) x_5 = 0, \quad (8.11)$$

$$x_{12} x_{13} p - K_9(T) x_6 = 0; \quad (8.12)$$

for the conservation of charges

$$x_7 + x_8 + x_9 + x_{10} + x_{11} + x_{12} - x_{13} = 0; \quad (8.13)$$

Clapeyron equations

$$p = \frac{1}{\mu} R \rho T. \quad (8.14)$$

Here $\mu = \sum_{i=1}^{13} x_i \mu_i$ is the average molecular weight of the mixture, R is the universal gas constant. The enthalpy h and the square of the speed of sound c^2 are determined by

$$h = \frac{1}{\mu} \sum_{i=1}^{13} x_i H_i(T) \quad (8.15)$$

and

$$c^2 = \frac{\rho \frac{\partial h}{\partial p}}{1 - \rho \frac{\partial h}{\partial p}}. \quad (8.16)$$

The constants of chemical reactions $K_j(T)$ which enter into equations (8.4)-(8.12) as well as the enthalpies of pure components $H_i(T)$ are functions of only the absolute temperature. $K_j(T)$ and $H_i(T)$ may be computed theoretically by the methods of statistical physics (ref. 2). Such calculations have been carried out at the G. M. Krzhizhanovskiy Energy Institute and the corresponding tables have been published in reference 4.

It follows from (8.15) and (8.16) that the problem of computing h and c^2 for given p and ρ is reduced to the determination of x_i and T and also their derivatives with respect to p and ρ from (8.1)-(8.14). After this, h is determined directly while the derivative $\partial h / \partial p$ is determined by

$$\frac{\partial h}{\partial p} = -\frac{h}{\mu} \sum_{i=1}^{13} \mu_i \frac{\partial x_i}{\partial p} + \frac{1}{\mu} \left\{ \sum_{i=1}^{13} \left(\frac{\partial x_i}{\partial p} H_i + x_i H_i' \frac{\partial T}{\partial p} \right) \right\},$$

and the derivative $\partial h / \partial \rho$ is determined from a similar equation.

In solving the system (8.1)-(8.14) in the region of temperatures and pressures where ionized components prevail, it is convenient to use the following iteration method. By assigning certain initial values for x_i with $i > 6$, we solve equations (8.1)-(8.6) and (8.14) with respect to x_1, x_2, \dots, x_6 . After this we find new values of x_7, \dots, x_{13} from (8.7)-(8.13); utilizing these we repeat the computation of x_1, \dots, x_6 , etc. As experience has shown, the iteration process converges quite rapidly. In practice it is necessary to make two to three iterations to obtain a solution with an accuracy of 0.1 percent, which is within the accuracy of the physical data.

In the region where the ionized components play the main role the variable x_1, x_2, \dots, x_6 and x_7, x_8, \dots, x_{13} should be switched in the described iteration process.

Let us consider in more detail the solution of system (8.1)-(8.6), (8.14) with respect to T, x_i when $i \leq 6$. In the interval of temperatures (from 300°

to $10,000^\circ$) where this solution is carried out there is a sharp variation in the values of molecular component concentrations. Although they are predominant at lower temperatures, they become negligibly small at higher temperatures. To obtain a single algorithm for solving this system it is expedient to solve it with respect to certain combinations of molecular and atomic components by introducing the replacement of variables

$$\begin{aligned} y_1 &= \sqrt{x_1} + x_2, & y_3 &= \sqrt{x_1} - x_2; \\ y_2 &= \sqrt{x_3} + x_4, & y_4 &= \sqrt{x_3} - x_4. \end{aligned}$$

By simple calculation it is possible to eliminate variables y_3, y_4, x_5, x_6 /50 from (8.1)-(8.6) and (8.14) and obtain a system of three second-order equations with respect to y_1, y_2 with coefficients depending on T and computed from the known x_7, x_8, \dots, x_{13} . This system is solved by Newton's method after which all x_i are easily determined. Since y_1 and y_2 are never very small in the considered region, computation accuracy remains high. A similar method of solution is applied in the second region, where the ionized components predominate.

After calculation of T and all x_i their derivatives with respect to p and ρ are obtained from a system of linear equations obtained by differentiating the equations of thermodynamic equilibrium with respect to p and ρ , respectively. In this case it is more convenient to differentiate the transformed equations rather than the initial equations (8.1)-(8.14).

In the process of computing the flow of a chemically reacting gaseous mixture around bodies, the described algorithm for the solution of (8.1)-(8.14) is used to compute h and c^2 at each point of the mesh. In this case for the zero approximation in the iteration we take the values $T, x_i, \frac{\partial T}{\partial p}, \frac{\partial x_i}{\partial p}, \frac{\partial T}{\partial \rho}, \frac{\partial x_i}{\partial \rho}$ from the preceding point which differ little from the given point. This makes it possible to reduce the number of iterations and substantially reduces computation time.

Since enthalpy h is no longer expressed explicitly in terms of p, ρ it becomes necessary to change the form of the solution of equations on the wave. Equation (6.28) is solved in conjunction with all three equations (6.26) by means of iteration. In this connection it is convenient to introduce an "effective" ratio of specific heats during each iteration and determine it by

$$k^{(i)} = \frac{h(p^{(i)}, \rho^{(i)}) \rho^{(i)}}{h(p^{(i)}, \rho^{(i)}) \rho^{(i)} - p^{(i)}},$$

where i is the number of the iteration, while $h(p, \rho)$ is computed in the manner described above. Knowing the values $p^{(i)}, \rho^{(i)}$, we compute $k^{(i)}$ in the third equation (6.26) and assume that the left part is equal to

$$\frac{k^{(i)}}{k^{(i)} - 1} \cdot \frac{\rho_\infty + \rho_\infty y_2^{(i+1)}}{\rho_\infty y_1^{(i+1)}} (y_1^{(i+1)} - y_2^{(i+1)}),$$

after which, to determine $y_1^{(i+1)}$ and $y_2^{(i+1)}$ we again obtain (6.29) and (6.30) with $k = k^{(i)}$. From $y_1^{(i+1)}$ and $y_2^{(i+1)}$ we compute $p^{(i+1)}$, $\rho^{(i+1)}$, and the process is repeated.

We note that in the method presented, for the solution of equations on the wave in the form of functions $h(p, \rho)$ and $c^2(p, \rho)$ there are no limitations whatsoever. Therefore, the method may be applied without change to computation of flow around bodies involving any mixture of gases under thermodynamic equilibrium. To reduce computation time, in place of the accurate determination of h and c^2 described above, we can use any approximations for them without changing the basic computation algorithm.

CHAPTER II. RESULTS OF CALCULATIONS

The numerical method of computing three-dimensional supersonic flows ^{/51} presented in Chapter I was used to determine different cases of ideal gas flow around bodies. All the examples presented pertain to flow around pointed bodies with an attached bow wave. In these cases the determination of flow in region I (fig. 1) is performed automatically by the same method. Computation of flow around bodies with a detached shock wave differs only in the method used to determine flow in region I. The latter has much in common with the method presented above for computing conic flows. However, in view of certain specific features it must be considered separately. The scope of the present work does not permit us to present this method at this time.

We have given particular attention to computation of conic flows. The problem of flow around the cone with an angle of attack is a classical problem of hydrodynamics not satisfactorily solved to date. In our opinion such a solution can only be a numerical solution. Of course, the existing algorithm must make it possible to obtain the solution with any degree of desired accuracy. Much experience gained in solving various problems leads us to believe that the difference methods satisfy this requirement, although proof of convergence exists only in the simplest cases.

The possibilities of the method are also illustrated by us for cases of flow around complex bodies differing from conic ones.

9. Flow Past Circular Cones

Initial data for calculating the flow around cones were obtained in the following manner. For initial data we assume the field of flow during the axisymmetric flow around the cone. Subsequently, the cone was given a small angle of attack $\Delta\alpha$ and with these initial data the self-similarity was established with a large value of the constant ϵ in the inequality (7.2). This required a small number of steps along x . Then the angle of attack was again set to $\Delta\alpha$ and the computation process was repeated. After the given angle of attack was achieved, self-similarity was established with an assigned degree of accuracy. In this way the tables presented in Chapter III were computed for the case of flow around the cone of an ideal gas with the ratio of specific heats $k = 1.4$.

Many works have been devoted to the problem of the flow of an ideal ^{/52} gas around cones with angles of attack. In all these works, with rare exceptions, efforts are made to solve the problem analytically by using various types of simplifying assumptions as, for example, the small value of the angle of

attack, the small half cone angle, etc. We shall not consider these works and, furthermore, we shall not compare the results of our calculations with the results of these works since the latter do not contain systematic calculations of flow around cones and since they do not at all clarify the values of the errors introduced when simplifying assumptions are made. Although the second shortcoming is entirely applicable to the Kopal tables (refs. 5 and 6) computed by using the approximate Stouana method, we shall consider this work briefly at the end of the chapter because the Kopal tables are widely used and are unique to date.

In flow around cones, the independent variables are taken to be x , ξ , ϑ , where

$$\xi = \frac{r-G}{F-G}.$$

The gasdynamic functions are presented in dimensionless form and the velocity components referred to c_{cr} , the density to ρ_∞ and the pressure to $\rho_\infty c_{cr}^2$.

Analysis of results contained in tables of Chapter III makes it possible to draw a series of conclusions on the characteristic features of conic flow.

a. The Shape of Shock Waves. Tracks of shock waves in the plane normal to the axis of the cone as a rule differ substantially from the circumference of a circle. Shock waves can be divided into two types according to their shape. The first type is characterized by the fact that the distance from the surface of the cone to the shock wave when $\vartheta = 180^\circ$ is greater than when $\vartheta = 0^\circ$. The situation is opposite for shock waves of the second type (fig. 3). In most computed versions the shape of the shock wave pertains to the first type and in many cases the distance in the plane $\vartheta = 180^\circ$ differs substantially from the distance in the plane $\vartheta = 0^\circ$. Thus, for example, when $M_\infty = 3$, $\beta_K = 25^\circ$,

$\alpha = 20^\circ$. This difference is approximately 26 percent. For large values of the Mach number and large values of the cone angle, the shape of the shock wave is of the second type. In this case the distance to the shock wave in the plane $\vartheta = 180^\circ$ does not differ quite as much as the distance in the plane $\vartheta = 0^\circ$. The maximum distance to the shock wave is usually established in the plane of flow symmetry.

An interesting deviation from this rule is the presence of the maximum distance to the shock wave outside the plane of flow symmetry. This phenomenon is observed in shock waves of the first as well as of the second type in cases when their cross section differs little from a circle. Figure 4 shows the case when the maximum distance between the wave and the cone lies in a plane close to the plane $\vartheta = 123^\circ 45'$. In a series of examples the form of the shock wave differs little from a circle in the transverse cross section although the angle of attack of the cone is not close to zero. For example, with an accuracy up to the third significant figure in the variation $M_\infty = 5$, $\beta_K = 30^\circ$, $\alpha = 5^\circ$ the

shock wave coincides with the circumference of a circle whose center is displaced

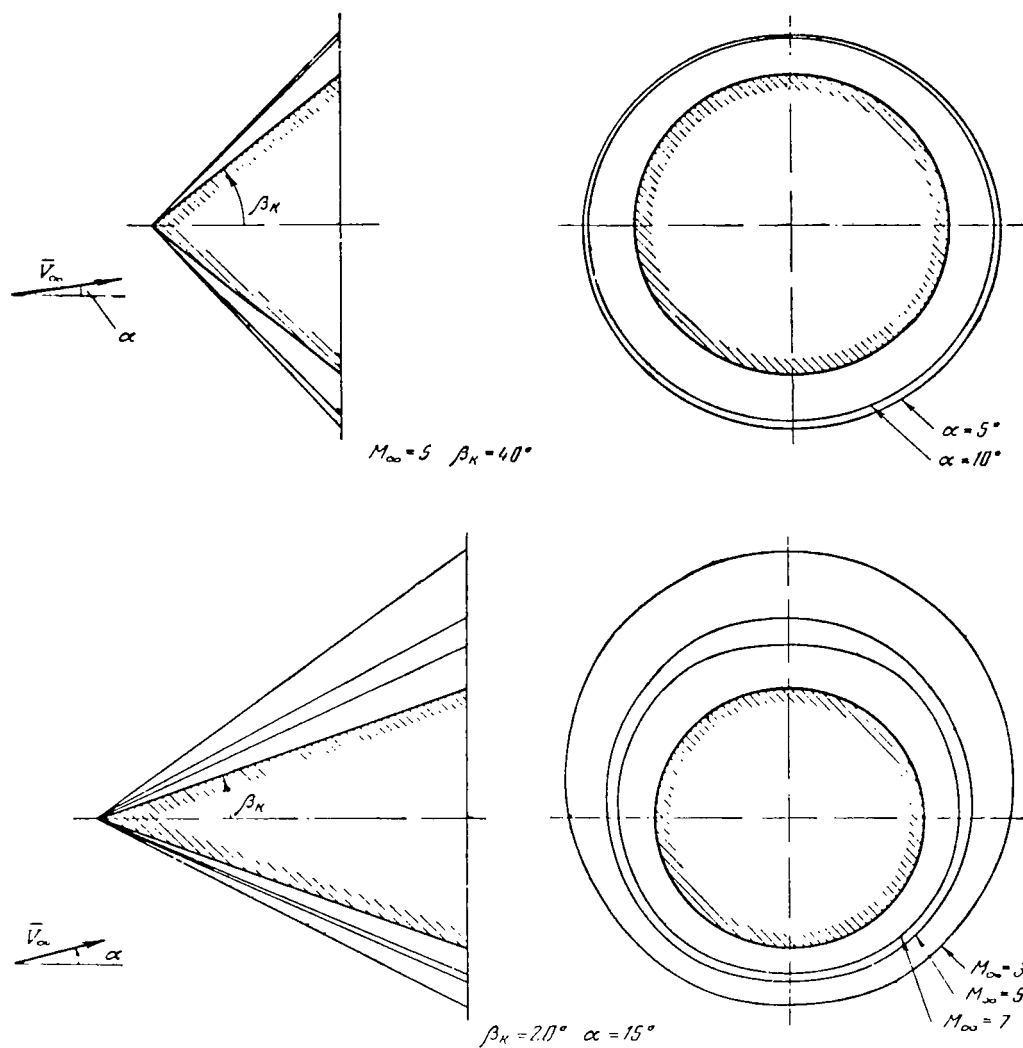


Figure 3. Shapes of shock waves.

with respect to the axis of the cone. As the half cone angle β_K is increased while M_∞ and α remain constant we observe a transition from the shock wave form of the first type to that of the second type. In this case the value ϑ which pertains to the maximum distance to the shock wave varies from 180° to 0° . ⁵³ If, however, we hold β_K and α constant and gradually increase the value of M_∞ , the nature of the change in the form of the shock wave when the half cone angle is $\beta_K = 30-35^\circ$ will be the same. For cones with a value $\beta_K = 10-25^\circ$ the shape of the shock wave is always of the first type while for cones with $\beta_K = 40^\circ$ it

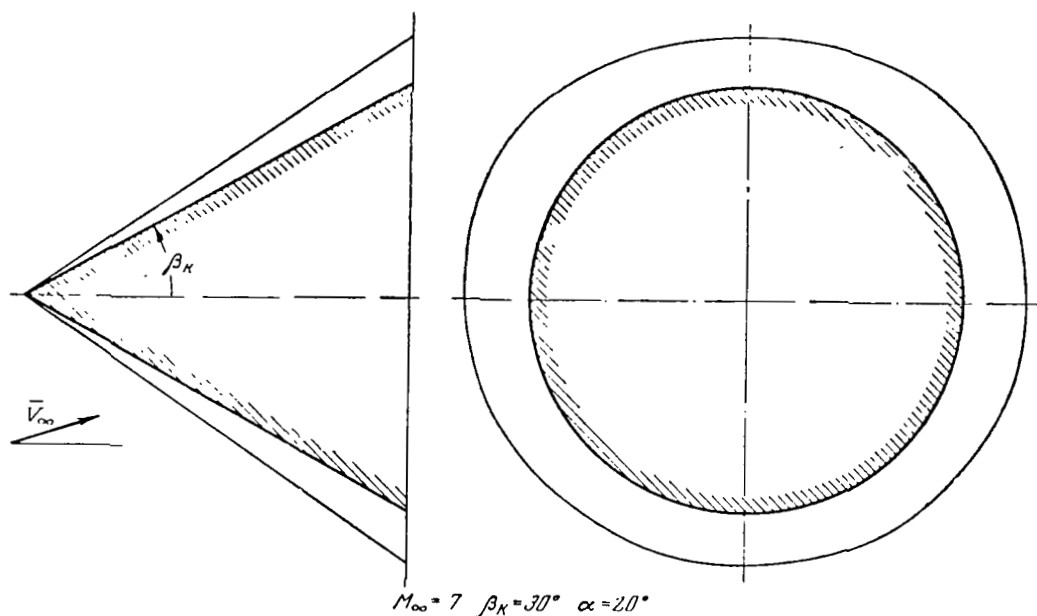


Figure 4. Shape of a shock wave.

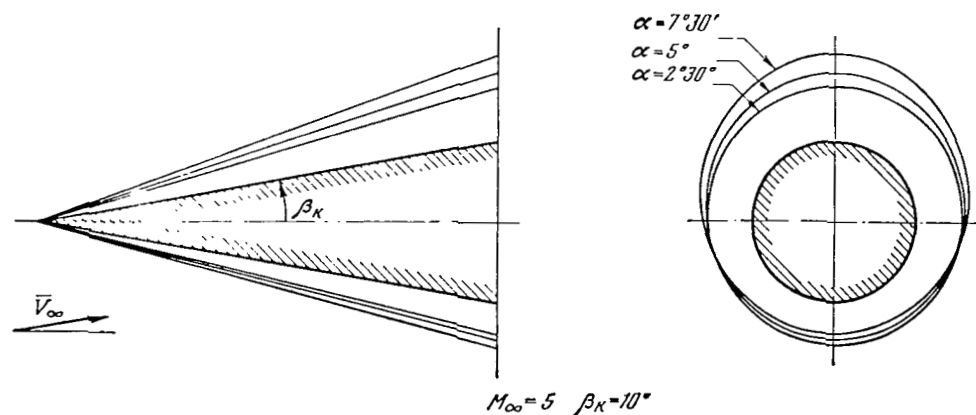


Figure 5. Shapes of shock waves.

is of the second type. In conclusion we note that in thin cones for certain values of the coordinate η the distance to the shock wave may be independent of the angle of attack α . Such an example is shown in figure 5.

b. Dependence of Gasdynamic Functions on Values of Coordinate ξ . For small angles of attack the nature of variation in the velocity vector component as a function of the coordinate ξ is close to linear. As the angle of attack increases, this relationship becomes substantially nonlinear. Thus, for example, the circumferential component of the velocity vector w is a function with a sharply defined nonlinearity. The values of this component may increase

or decrease when ξ increases and w may vary several times in magnitude. In some cases the circumferential component has a high absolute value.

For example, in the variation $M_\infty = 7$, $\beta_K = 30^\circ$, $\alpha = 20^\circ$ it reaches 40 per cent of the velocity vector modulus. As the value of the coordinate ξ increases the density of the gas usually decreases as in the case of axisymmetric flow. On the other hand, in the case of very large cone angles of attack, in ⁵⁵ some meridian planes the density increases up to the surface of the shock wave and may undergo substantial variation. The pressure between the shock wave and the surface of the cone varies insignificantly and as a rule when the value of ξ increases it tends to decrease.

On the surface of the cone in some meridian planes the values of all gas-dynamic functions except pressure may differ sharply from the values at a point close to the point ξ . This difference is most pronounced for density and for the axial component of the velocity vector. It is observed less frequently and is less pronounced for the circumferential component of the velocity vector.

The sharp variation in the values of functions at the surface of the cone is explained by the substantial difference in the magnitude of the entropy function at the cone compared with its value at the neighboring ξ point ($\xi = 0.05$) (fig. 6). In this case the entropy has a maximum value on the surface of the cone and is equal to its value in the plane $\vartheta = 0^\circ$. Figure 7 illustrates the

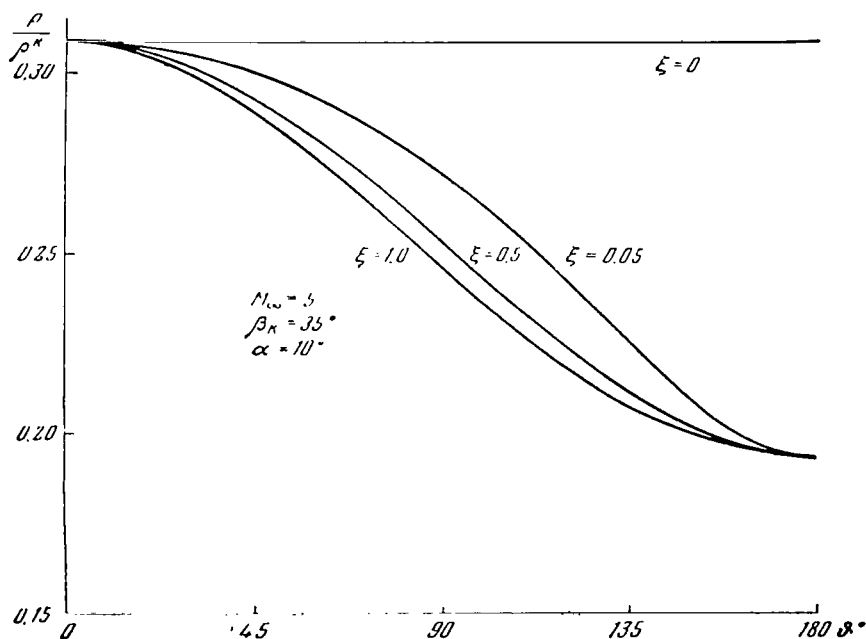


Figure 6. Graph of p/ρ^k as a function of the coordinate ϑ for different values of ξ .

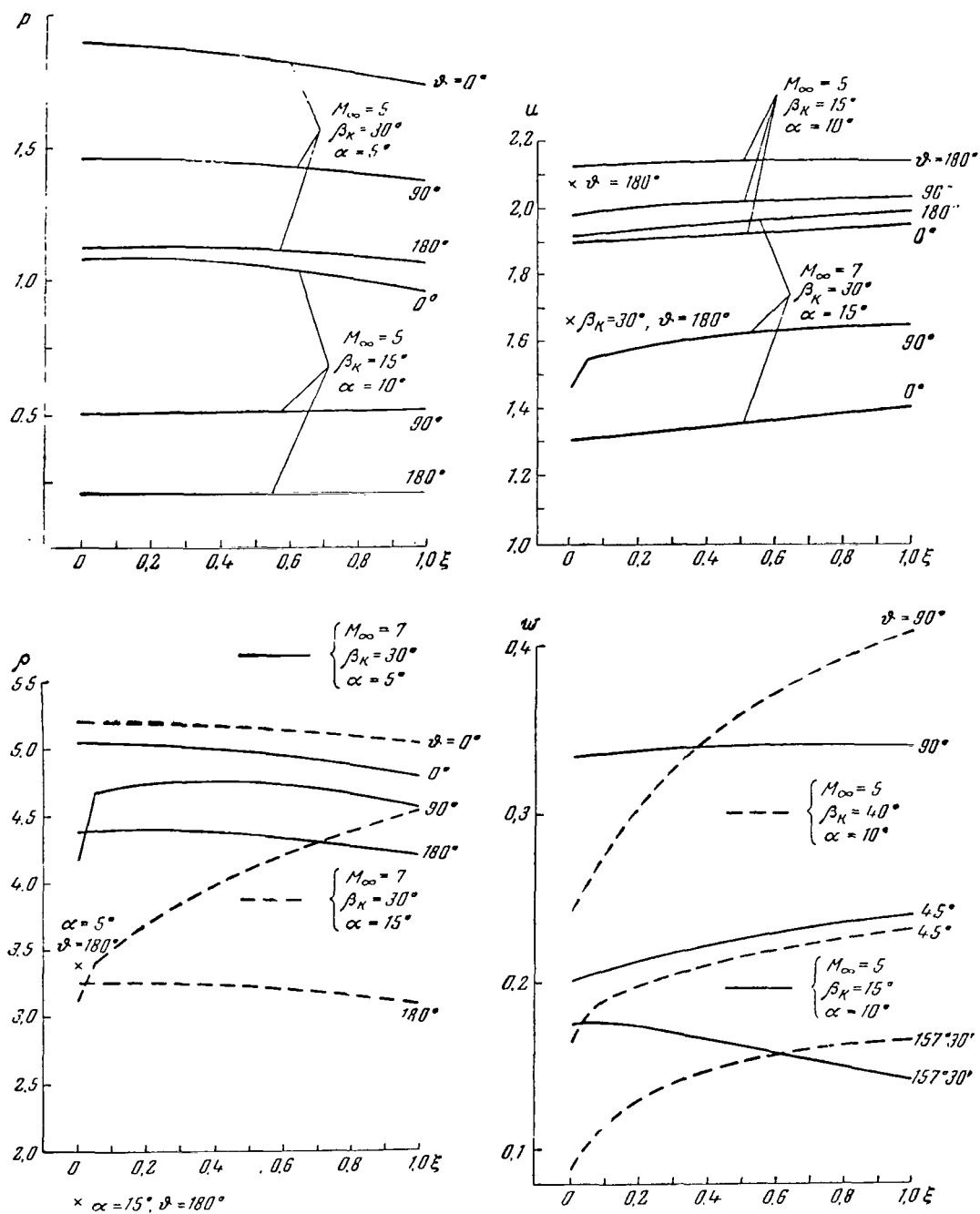


Figure 7. Variation in velocity, pressure and density components as a function of coordinate ξ .

variation in the different gasdynamic functions with the coordinate ξ . When we know the behavior of the functions between the points $\xi = 0$ and $\xi = 0.05$, the corresponding points of the curves are connected by a straight line. At the singularity ($\xi = 0, \vartheta = 180^\circ$) two values of gasdynamic functions are represented. The crosses show the values obtained when a limiting transition is made with respect to ϑ .

c. Variation in Gasdynamic Functions with the Coordinate ϑ . The variation of any gasdynamic function with the coordinate ϑ is substantially nonlinear. The absolute values of the functions vary substantially with ϑ and this variation increases with the cone angle of attack. The function w has a sharply defined maximum. For small angles of attack w has a maximum when the values of the coordinate ϑ are close to $\vartheta = 90^\circ$. In this case the values w on the shock wave are always greater than the values on the surface of the cone. As the Mach number of the unperturbed flow increases and the difference $\beta_K - \alpha$ decreases

the maximum is displaced in the direction of high values of ϑ , and the displacement of the maximum value of w becomes larger for smaller ξ . Figure 8 shows the variation in the gasdynamic functions with the coordinate ϑ for several cases of flow around cones. The crosses on the graphs show the values of the functions at the singular points obtained by the limiting transition along ξ .

d. Variation in Gasdynamic Functions with the Mach Number M_∞ . All gasdynamic functions vary monotonically with the Mach number and their derivatives decrease in absolute value. However, when $M_\infty = 7$ the value of the derivatives is substantially different from zero, particularly for the circumferential component of the velocity vector. We note that the circumferential component of the velocity vector, regardless of the value of the coordinate ϑ , decreases on the surface of the cone while directly behind the shock wave it increases with M_∞ .

On the other hand, the nature of pressure variation changes substantially from one meridian plane to another and does not depend on the value of the coordinate ξ .

As an example, figure 9 shows the graph for the variation of different gasdynamic functions with the Mach number of the unperturbed flow. Crosses represent the curves obtained during the limiting transition along ϑ .

e. Variation in Gasdynamic Functions with the Half Cone Angle β_K . /56

The gasdynamic functions depend on the half cone angle in a rather nonlinear fashion. In the considered range of angles β_K the values of the gasdynamic functions vary by several factors when the angles β_K vary. The nature of the behavior of each gasdynamic function with β_K , except the function w , does not depend on the values ξ and ϑ .

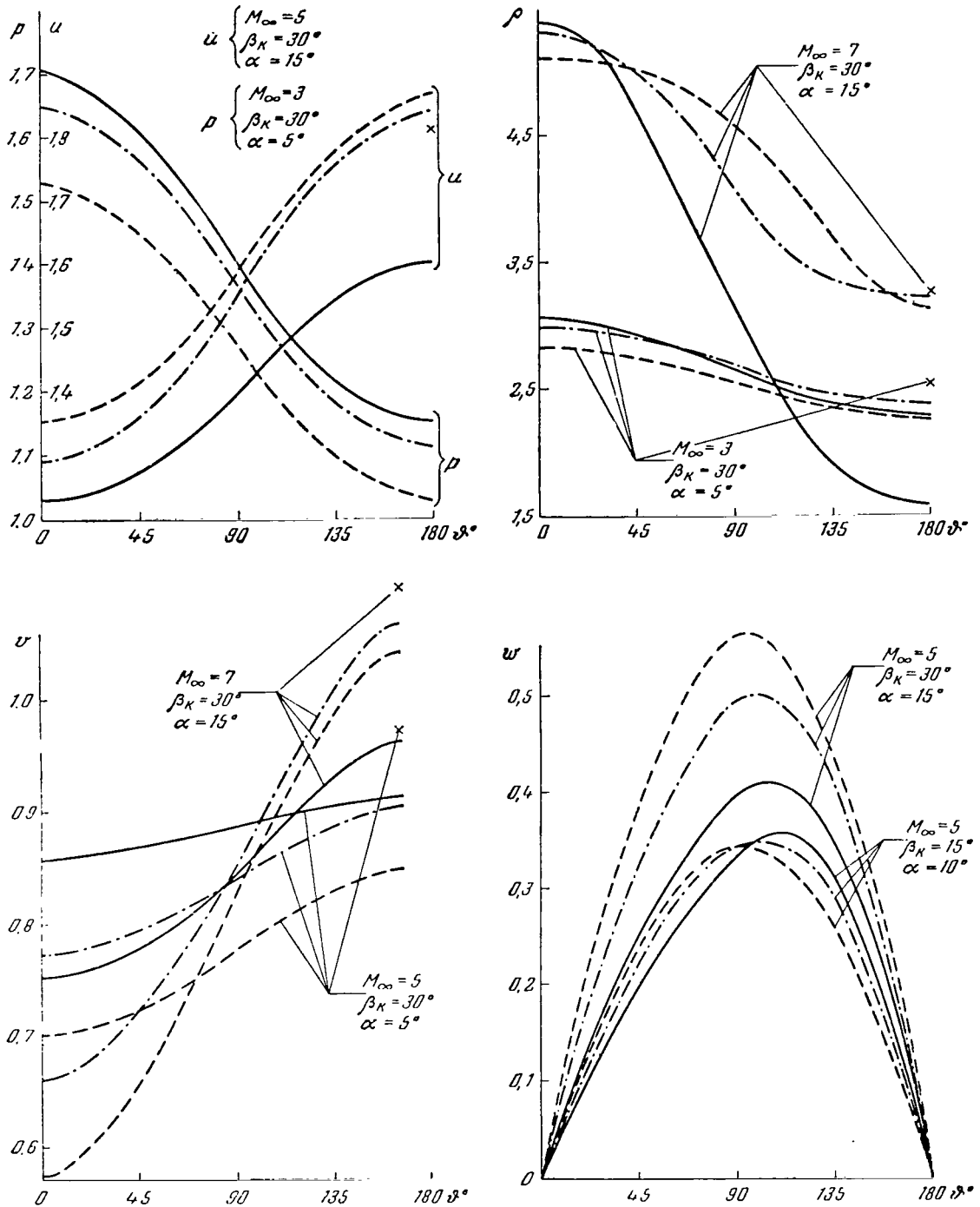


Figure 8. Variation in velocity, pressure and density components as a function of coordinate ϑ : solid line, $\xi = 0$; dash dot, $\xi = 0.5$; broken line, $\xi = 1.0$.

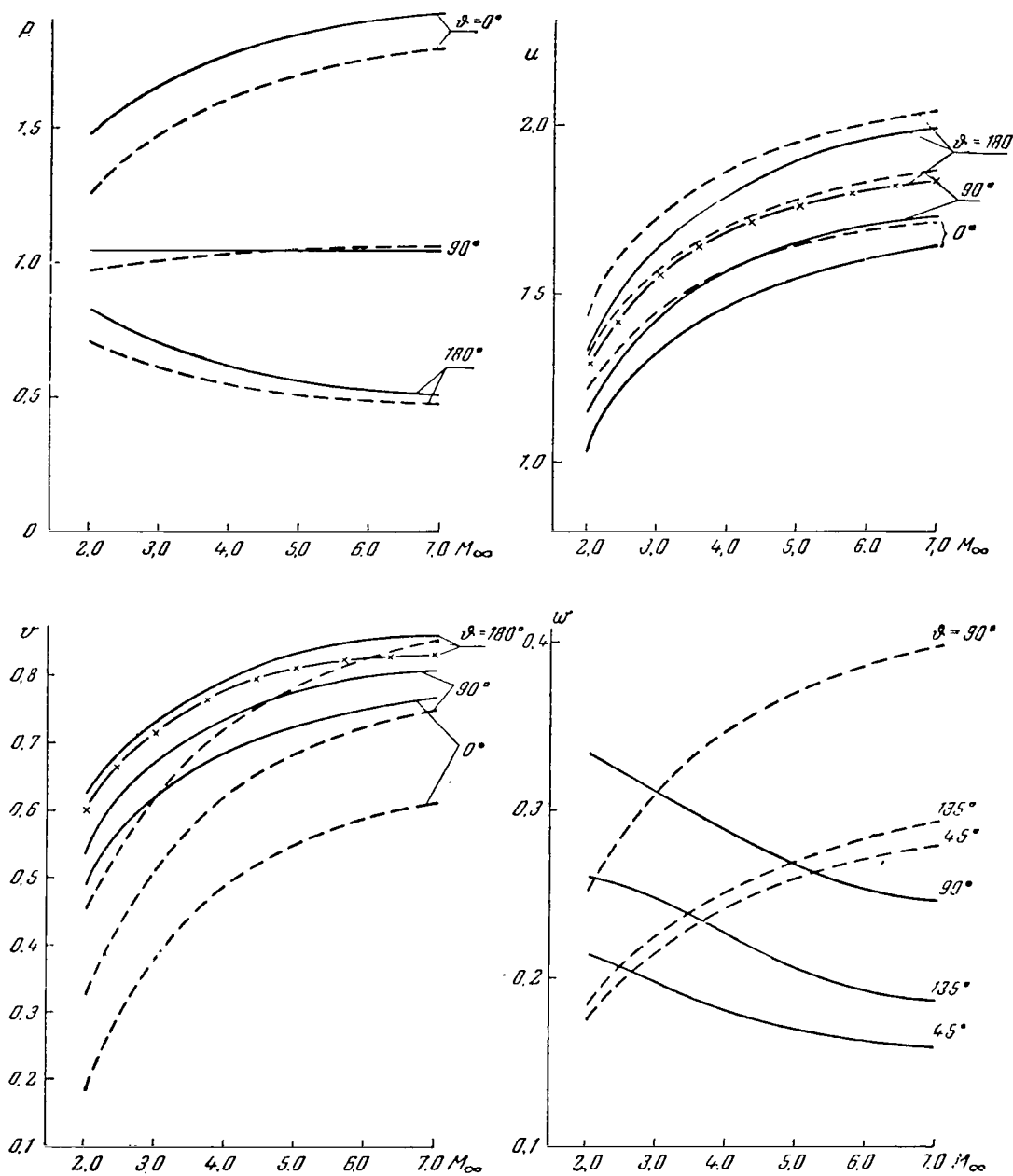


Figure 9. Variation in the velocity and pressure components as a function of M_∞ when $\beta_K = 25^\circ$, $\alpha = 10^\circ$: solid line, on body surface; broken line, on shock wave surface.

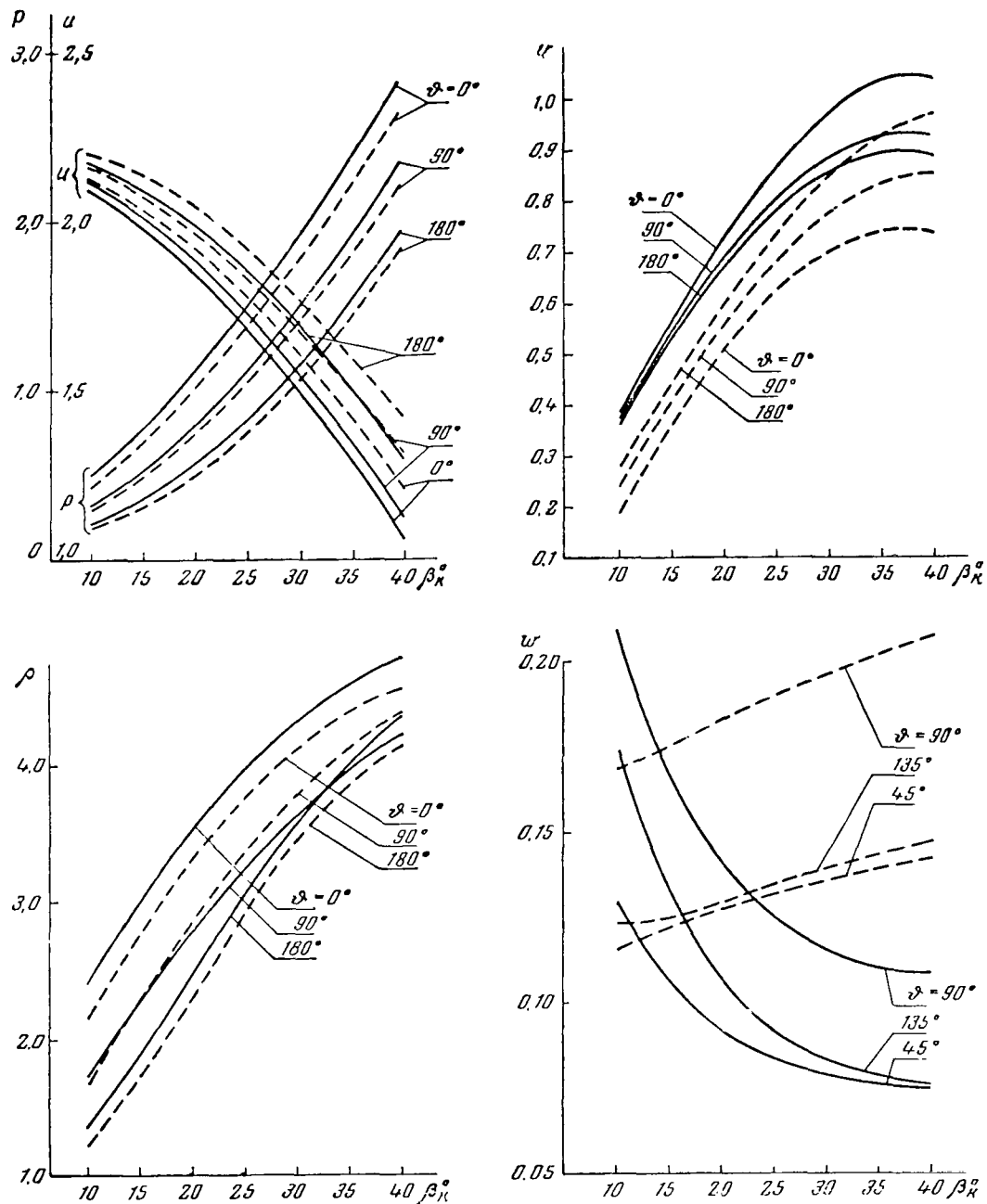


Figure 10. Variation in the velocity, pressure and density components as a function of half cone angle β_K : solid line, on surface of body; broken line, on shock wave surface.

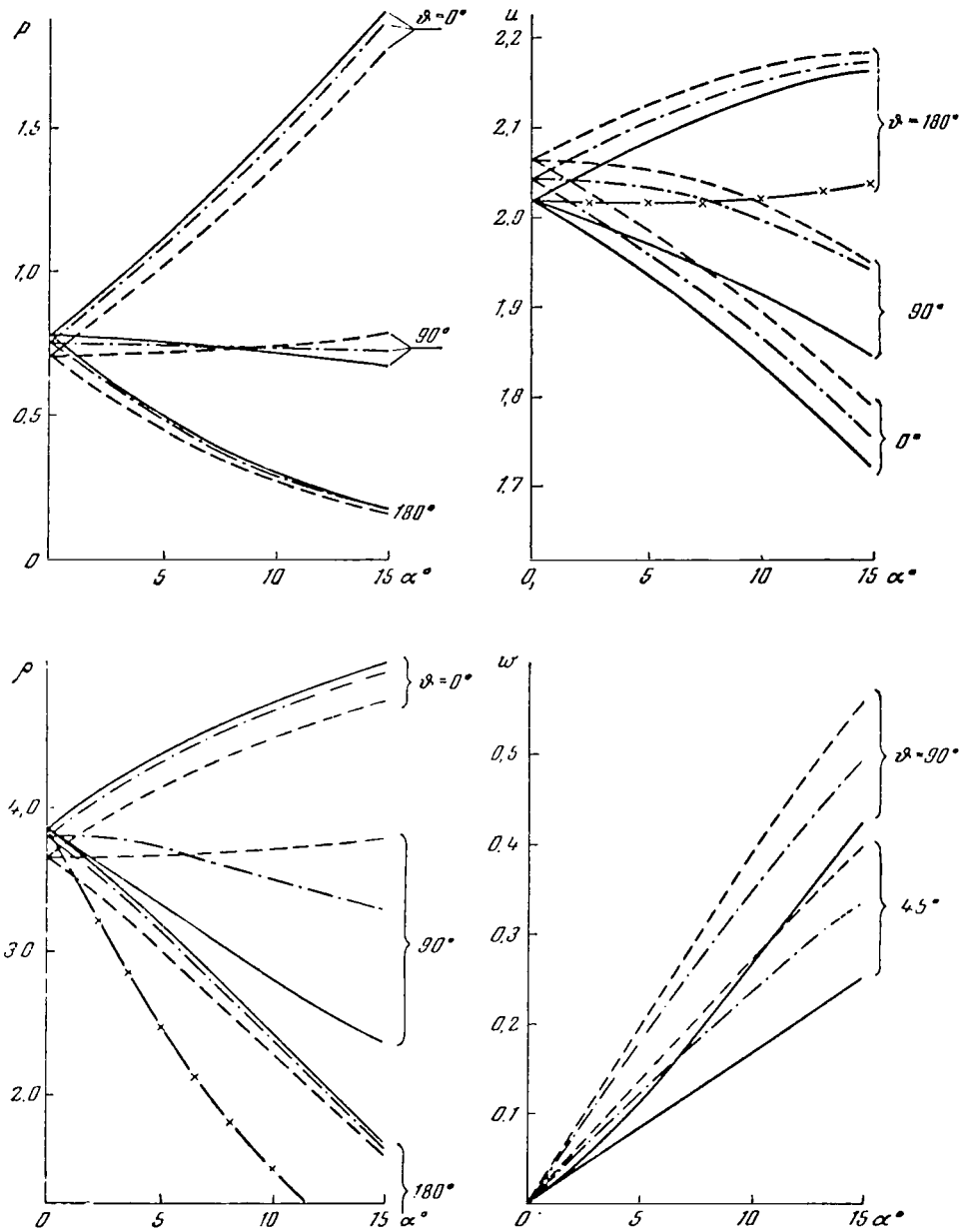


Figure 11. Variation in velocity, pressure and density components as a function of the angle of attack α when $M_\infty = 7$, $\beta_K = 20^\circ$: solid line, $\xi = 0$; dct-dash line, $\xi = 0.5$; broken line, $\xi = 1.0$.

The circumferential component of the velocity vector w on the surface of the cone decreases with the angle β_K and increases behind the shock wave.

Figure 10 illustrates the variation in the gasdynamic functions with the half cone angle β_K for the case $M_\infty = 5$, $\alpha = 5^\circ$.

f. Variation in the Gasdynamic Functions with the Angle of Attack. For small values of the angle of attack ($\alpha < 5^\circ$) we may assume approximately that the gasdynamic functions depend linearly on the angle of attack α . For large values of α this relationship deviates substantially from a linear one. The behavior of the gasdynamic functions with the angle α does not depend on the coordinate ξ but does depend substantially on the coordinate ϑ . Figure 11 shows the graphs of the gasdynamic functions as they depend on the angle of attack. The crosses show the curves obtained by the limiting transition along ϑ .

10. Examples of Flows Near Smooth Bodies

In this section we present some results of computing three-dimensional ^{/62} and axisymmetric flow of air around smooth bodies taking into account equilibrium chemical reactions. In presenting these examples we have pursued the following goals: to illustrate the possibility of the proposed method in computing three-dimensional flow of gas with large gradients of the functions; to represent three-dimensional gas flow with high supersonic velocity; to show by individual examples the differences in values of the functions which make it possible to consider chemical reactions in the ideal gas.

Flow calculations were deliberately made for bodies with large variations in surface curvature to obtain sharp variations of the quantities in the gas flow. Calculations presented here were carried out for bodies consisting of a bow cone connected to the basic cone or to the cylinder. The generatrices of the cones are joined by a curve of the fourth order so that the curvature of the generatrix has no discontinuities at the connecting points.

In presented calculations the mixture of gases was taken to consist of molecular oxygen O_2 , atomic oxygen O , molecular nitrogen N_2 , atomic nitrogen N , nitrogen oxide NO , argon Ar and their single-stage ionized components. On the graphs and in the tables the concentrations of the ionized components are designated by x_{O_2} , x_O , x_{N_2} , x_N , x_{NO} .

In the presented variations the velocities of the incident flow correspond to Mach 15 and 20. The calculations taking into account chemical reactions are carried out for the unperturbed flow temperature of $T_\infty = 250^\circ$ and a pressure of $p_\infty = 0.292 \cdot 10^{-2}$ atmospheres, which corresponds approximately to atmospheric conditions at an altitude of 40 km.

Gasdynamic functions presented in the tables and on the graphs are dimensionless. For technical reasons the components of the velocity vector, density

and pressure are also referred to the same quantities as in the preceding section. Under these conditions in the unperturbed flow with $M_\infty = 15$

$c_{cr_\infty} = 1962$ m/sec, $\rho_\infty c_{cr_\infty}^2 = 0.1567$ atm, while for $M_\infty = 20$ $c_{cr_\infty} = 2604$ m/sec,

$\rho_\infty c_{cr_\infty}^2 = 0.2759$ atm. The density of the unperturbed flow is $\rho_\infty = 0.412 \cdot 10^{-5}$

g/cm³. All linear dimensions are referred to the height of the bow cone, which is assumed to be equal to unity.

The gasdynamic functions are presented selectively only for certain values of the coordinates x, ξ, ϑ (the numerical solution is presented on a more frequent mesh). To complete the picture in addition to the three-dimensional flows examples of axisymmetric flows are presented (tables 1-4). In the tables for axisymmetric flows the gasdynamic functions are given for each pair of the coordinates x, ξ . The distribution of functions in the tables for each computation point are as follows: the axial component of the velocity vector u , the radial component v , the pressure p , the density ρ , the temperature T (the temperature is not presented in all cases). In table 5, for three-dimensional flow the position of the functions is as follows: u, v, w, p, ρ . The accuracy of the results in the tables of this section is three to four decimal places.

Figure 12 shows the axisymmetric bodies whose half cone angle of the bow cone is equal to 40° while the basic cone is 0° and 20° , respectively. This figure also shows the shock waves and the streamlines. The broken line /64 shows the shock wave obtained when calculations were made without taking into account the chemical reactions in air. The calculations for the pointed cylinder are carried out for the case $M_\infty = 20^\circ$ and of the second body for the case $M_\infty = 15$. The shape of the shock waves and of the streamlines indicates a sharp variation in the gas flow produced by a powerful bow shock wave and a substantial expansion of the gas in the region where the bow cone joins the main cone. The asymptotic nature of both flows is clearly seen in these illustrations as well as the extent of the influence of chemical reactions on the shape and position of the shock wave.

Table 1 shows the values of the gasdynamic functions for axisymmetric flows around the body with a bow cone having a half cone angle of 40° and a basic cone with a half-angle of 10° when the Mach number of the unperturbed flow is $M_\infty = 20$. Tables 2 and 3 contain the fields of axisymmetric flow near

a body with a different half-angle of the basic cone equal to 20° and a Mach number equal, respectively, to 20 and 15. At the two extreme right columns of tables 1, 2 and 3 we show the flow near infinite pointed cones with half cone angles of 10° and 20° with equilibrium chemical reactions taken into account and not taken into account.

From the results presented we can draw qualitative conclusions on the properties of the computed flows: large gradients of the gasdynamic functions, thickness of the entropy layer, shape of the shock waves, etc. From the data in the tables we can clearly see that down along the flow the layer of large gradients of the functions tapers off and all the large regions of flow beginning with the wave display the nature of conic flow. Thus, for a body with

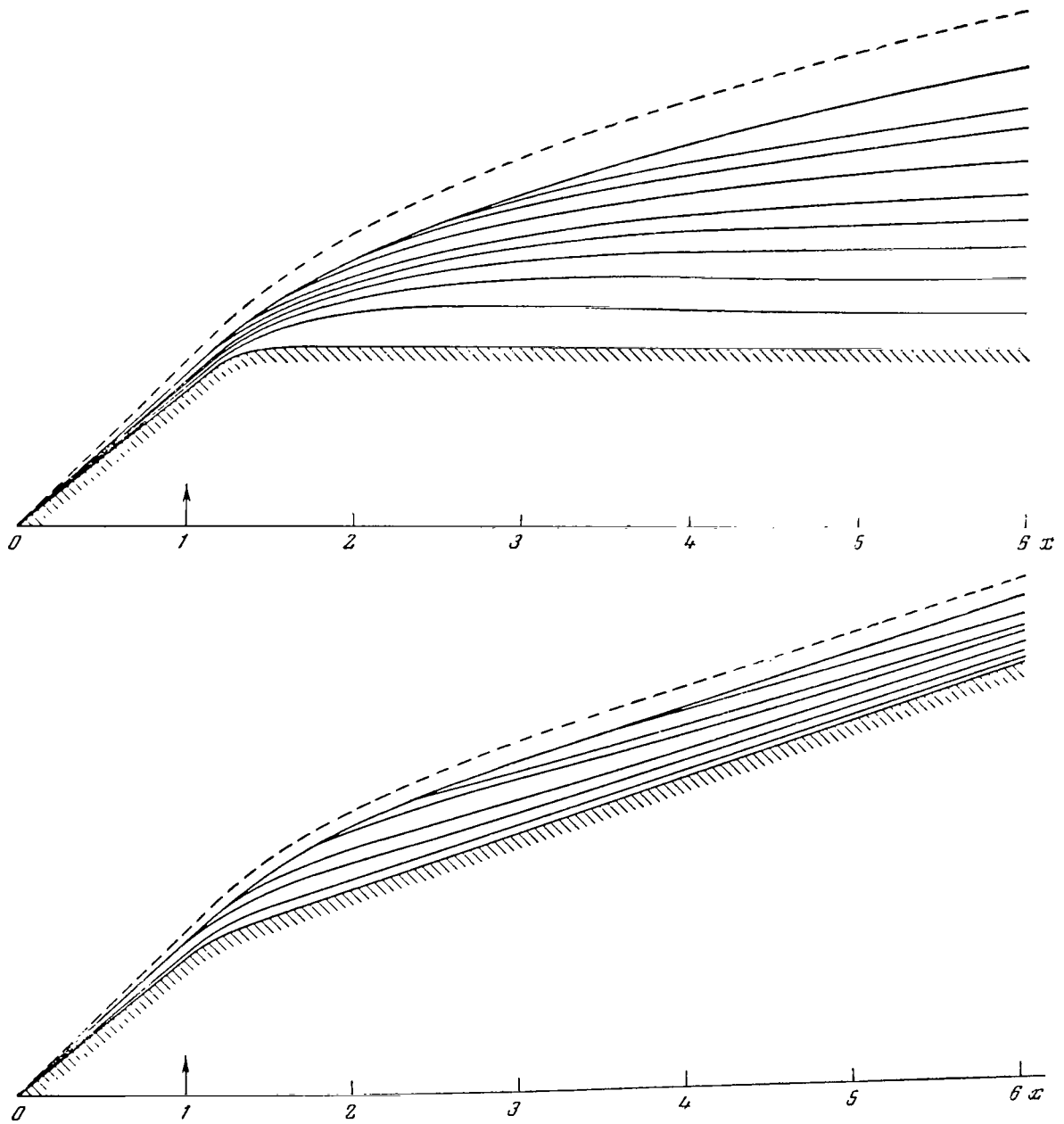


Figure 12. Form of shock waves and streamlines:
 broken line, shock wave for a gas with $k = 1.4$;
 solid line, shock wave and streamline in a gas
 taking into account equilibrium chemical reactions.

TABLE 1

/71

ϵ	x							Cone $\beta_K = 10^\circ$	
	1.0	1.24	1.48	1.88	2.84	5.8	28.52	Chemical reactions	$k = 1.4$
0	1.377 1.156 2.524 10.757	1.748 0.830 0.745 4.001	2.030 0.354 0.166 1.115	2.031 0.355 0.160 1.075 3142	2.018 0.352 0.191 1.250 3196	2.028 0.354 0.163 1.090 3149	2.053 0.358 0.193 1.305 3132	2.352 0.414 0.200 4.930 957.6	2.352 0.415 0.200 4.738
0.10	1.382 1.149 2.524 10.755	1.683 0.901 0.968 4.952	2.008 0.404 0.193 1.270	2.033 0.340 0.162 1.090 3136	2.025 0.321 0.188 1.238 3190	2.026 0.352 0.163 1.085 3157	2.051 0.350 0.193 1.292 3153	2.353 0.410 0.200 4.927 957.4	2.353 0.409 0.200 4.736
0.20	1.388 1.143 2.521 10.747	1.636 0.946 1.159 5.729	1.946 0.535 0.290 1.707	2.033 0.330 0.167 1.123 3142	2.034 0.293 0.182 1.211 3166	2.035 0.352 0.164 1.105 3130	2.263 0.378 0.192 2.228 2047	2.354 0.405 0.199 4.920 956.9	2.354 0.404 0.200 4.730
0.30	1.393 1.137 2.518 10.735	1.599 0.978 1.330 6.407	1.886 0.635 0.408 2.416	2.017 0.359 0.195 1.280 3193	2.036 0.271 0.176 1.167 3173	2.022 0.349 0.164 1.083 3176	2.334 0.381 0.191 3.471 1306	2.355 0.400 0.199 4.909 956.2	2.355 0.399 0.199 4.719
0.40	1.398 1.131 2.513 10.719	1.570 1.002 1.487 7.013	1.832 0.710 0.541 3.062	1.978 0.435 0.260 1.634 3308	2.040 0.269 0.178 1.187 3155	2.100 0.359 0.164 1.208 2968	2.362 0.377 0.188 4.975 895.1	2.356 0.395 0.198 4.893 955.1	2.356 0.394 0.198 4.703
0.50	1.403 1.126 2.507 10.699	1.545 1.021 1.631 7.556	1.785 0.765 0.686 3.727	1.938 0.505 0.343 2.076 3407	2.016 0.300 0.197 1.269 3233	2.194 0.365 0.162 1.412 2640	2.368 0.369 0.184 5.131 845.6	2.357 0.390 0.197 4.873 953.8	2.357 0.389 0.197 4.684
0.60	1.408 1.120 2.500 10.674	1.524 1.035 1.765 8.053	1.744 0.808 0.843 4.421	1.904 0.566 0.437 2.566 3494	2.018 0.361 0.232 1.512 3227	2.262 0.350 0.151 1.626 2194	2.372 0.361 0.178 5.212 808.2	2.358 0.386 0.195 4.849 952.2	2.358 0.384 0.196 4.661
0.70	1.413 1.114 2.492 10.645	1.506 1.045 1.895 8.617	1.710 0.844 1.009 5.144	1.858 0.615 0.540 3.012 3639	2.069 0.434 0.279 1.979 3067	2.309 0.313 0.130 1.764 1740	2.374 0.352 0.171 5.116 790.4	2.359 0.381 0.194 4.821 950.3	2.359 0.379 0.194 4.634
0.80	1.418 1.109 2.483 10.612	1.493 1.053 2.020 8.987	1.672 0.880 1.181 5.788	1.869 0.680 0.657 3.812 3552	2.131 0.511 0.343 2.762 2826	2.323 0.349 0.154 2.436 1493	2.376 0.343 0.164 4.935 782.9	2.360 0.376 0.192 4.788 948.1	2.360 0.374 0.192 4.602
0.90	1.423 1.103 2.472 10.575	1.482 1.057 2.139 9.420	1.700 0.925 1.370 7.233	1.942 0.769 0.816 5.426 3266	2.174 0.586 0.437 4.059 2522	2.332 0.387 0.191 3.479 1296	2.376 0.332 0.156 4.598 801.6	2.361 0.371 0.190 4.751 945.6	2.360 0.369 0.190 4.567
1.00	1.428 1.098 2.460 10.584	1.511 1.087 2.258 10.551	1.771 1.005 1.624 9.850	2.003 0.857 1.060 8.150 2967	2.199 0.654 0.583 6.392 2153	2.337 0.426 0.248 5.113 1147	2.377 0.322 0.150 4.373 807.2	2.361 0.367 0.188 4.709 942.8	2.361 0.364 0.188 4.527
F	0.917	1.132	1.312	1.540	1.943	2.769	6.712	—	—
F _u	0.917	0.849	0.660	0.503	0.360	0.229	0.177	0.199	0.200
G	—	1.007	1.073	1.143	1.310	1.827	5.792	—	—

TABLE 2

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ξ	x							Cone $\beta_{\kappa} = 20^\circ$	
	1.0	1.12	1.4	1.88	2.84	5.0	29.8	Chemical reactions	$k = 1.4$
0	1.377 1.156 2.524 10.757	1.540 1.037 1.565 7.308	1.890 0.660 0.415 2.573 3358	1.875 0.655 0.420 2.467 3489	1.865 0.651 0.500 2.900 3531	1.844 0.644 0.648 3.589 3669	1.854 0.647 0.680 3.376 4018	2.127 0.774 0.732 7.031 2445	2.121 0.772 0.739 5.727
0.10	1.382 1.149 2.524 10.755	1.508 1.060 1.753 8.008	1.886 0.651 0.416 2.541 3400	1.884 0.628 0.421 2.467 3496	1.869 0.638 0.499 2.876 3548	1.844 0.629 0.649 3.546 3705	2.153 0.744 0.680 6.926 2311	2.130 0.768 0.731 7.029 2445	2.124 0.764 0.739 5.725
0.20	1.388 1.143 2.521 10.747	1.483 1.077 1.912 8.590	1.864 0.668 0.450 2.651 3494	1.892 0.604 0.424 2.498 3486	1.868 0.622 0.496 2.822 3582	1.837 0.607 0.646 3.482 3743	2.154 0.738 0.679 6.888 2322	2.132 0.762 0.730 7.021 2444	2.127 0.756 0.737 5.718
0.30	1.393 1.137 2.518 10.735	1.464 1.088 2.049 9.084	1.817 0.732 0.562 3.172 3617	1.897 0.589 0.431 2.539 3489	1.878 0.608 0.490 2.814 3560	1.885 0.610 0.639 3.704 3552	2.157 0.732 0.677 6.886 2317	2.134 0.756 0.729 7.009 2443	2.130 0.749 0.735 5.707
0.40	1.398 1.131 2.513 10.719	1.449 1.097 2.167 9.505	1.775 0.784 0.692 3.760 3730	1.896 0.574 0.438 2.531 3534	1.878 0.587 0.481 2.736 3582	2.019 0.640 0.626 4.406 3130	2.158 0.725 0.675 6.835 2327	2.136 0.749 0.727 6.992 2442	2.133 0.741 0.733 5.692
0.50	1.403 1.126 2.507 10.698	1.437 1.103 2.268 9.861	1.736 0.826 0.836 4.383 3847	1.899 0.573 0.455 2.673 3498	1.956 0.585 0.466 2.945 3332	2.113 0.655 0.608 5.031 2786	2.160 0.719 0.673 6.802 2329	2.139 0.743 0.724 6.971 2441	2.136 0.733 0.729 5.672
0.60	1.408 1.120 2.500 10.674	1.429 1.106 2.352 10.154	1.702 0.859 0.991 5.023 3958	1.867 0.597 0.513 2.868 3632	2.052 0.580 0.441 3.194 3051	2.171 0.658 0.590 5.771 2404	2.162 0.713 0.669 6.771 2329	2.141 0.737 0.721 6.945 2439	2.139 0.726 0.725 5.649
0.70	1.413 1.114 2.492 10.645	1.423 1.108 2.416 10.380	1.672 0.887 1.153 5.685 4054	1.866 0.643 0.595 3.400 3585	2.125 0.575 0.422 3.462 2793	2.213 0.655 0.571 6.789 1988	2.164 0.707 0.666 6.734 2328	2.143 0.731 0.717 6.914 2437	2.142 0.719 0.720 5.622
0.80	1.418 1.109 2.482 10.612	1.421 1.107 2.459 10.529	1.633 0.904 1.319 6.271 4185	1.918 0.708 0.695 4.366 3377	2.170 0.582 0.431 3.942 2552	2.230 0.645 0.549 7.042 1841	2.166 0.701 0.661 6.700 2325	2.146 0.725 0.712 6.879 2434	2.145 0.711 0.714 5.591
0.90	1.423 1.103 2.472 10.575	1.422 1.103 2.472 10.578	1.659 0.952 1.498 7.671 3952	1.977 0.777 0.829 5.834 3147	2.194 0.606 0.474 4.805 2325	2.225 0.629 0.530 6.403 1955	2.168 0.695 0.657 6.661 2322	2.148 0.719 0.707 6.839 2431	2.148 0.704 0.708 5.555
1.00	1.428 1.098 2.460 10.534	1.428 1.098 2.460 10.534	1.726 1.025 1.734 10.076 3621	2.020 0.843 1.020 8.002 2920	2.205 0.646 0.568 6.344 2114	2.227 0.617 0.516 6.190 1972	2.171 0.689 0.651 6.617 2318	2.150 0.713 0.702 6.794 2428	2.151 0.696 0.701 5.516
F	0.917 0.917 —	— — —	1.253 0.690 1.054	1.529 0.492 1.222	1.924 0.354 1.557	2.624 0.337 2.311	11.949 0.382 1.097	— 0.398 —	— 0.407 —

TABLE 3

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ξ	x							Cone $\beta_K = 20^\circ$	
	1.0	1.12	1.4	1.8	2.8	5.0	29.9	Chemical reactions	$k = 1.4$
0	1.363 1.144 2.519 9.480	1.526 1.028 1.641 6.544	1.873 0.654 0.510 2.376 2782	1.874 0.654 0.496 2.310 2779	1.867 0.652 0.551 2.544 2802	1.860 0.649 0.594 2.734 2810	1.824 0.637 0.687 2.164 3651	2.113 0.769 0.738 6.022 1644	2.109 0.768 0.742 5.410
0.1	1.369 1.136 2.518 9.477	1.492 1.052 1.827 7.184	1.875 0.646 0.511 2.379 2782	1.881 0.632 0.500 2.327 2780	1.871 0.641 0.549 2.535 2800	1.862 0.631 0.594 2.722 2820	2.147 0.740 0.686 6.205 1484	2.116 0.761 0.738 6.020 1644	2.113 0.759 0.742 5.408
0.2	1.375 1.129 2.515 9.469	1.466 1.068 1.983 7.711	1.860 0.665 0.550 2.536 2807	1.886 0.613 0.508 2.367 2781	1.871 0.628 0.543 2.498 2810	1.857 0.610 0.593 2.695 2837	2.140 0.731 0.685 5.918 1554	2.118 0.754 0.737 6.012 1644	2.116 0.751 0.741 5.401
0.3	1.381 1.123 2.511 9.456	1.447 1.079 2.115 8.153	1.810 0.730 0.675 3.025 2872	1.891 0.596 0.515 2.396 2785	1.878 0.615 0.535 2.468 2800	1.897 0.604 0.590 2.740 2793	2.143 0.723 0.684 5.916 1550	2.121 0.747 0.735 6.001 1643	2.119 0.743 0.739 5.390
0.4	1.387 1.116 2.506 9.439	1.432 1.086 2.227 8.525	1.762 0.785 0.813 3.555 2932	1.890 0.582 0.523 2.414 2800	1.884 0.597 0.522 2.402 2807	2.005 0.620 0.584 3.104 2498	2.146 0.716 0.681 5.908 1547	2.124 0.740 0.732 5.985 1641	2.122 0.735 0.736 5.375
0.5	1.392 1.109 2.499 9.417	1.421 1.091 2.320 8.831	1.717 0.829 0.968 4.130 2988	1.883 0.596 0.563 2.595 2807	1.952 0.594 0.505 2.490 2660	— 0.631 0.573 3.717 2067	2.149 0.709 0.678 5.880 1547	2.127 0.733 0.729 5.964 1640	2.125 0.727 0.732 5.356
0.6	1.398 1.103 2.491 9.390	1.413 1.094 2.334 9.073	1.679 0.864 1.128 4.725 3035	1.841 0.634 0.652 2.913 2877	2.031 0.590 0.483 2.670 2410	2.143 0.634 0.558 4.429 1692	2.151 0.702 0.674 5.849 1546	2.129 0.726 0.725 5.940 1638	2.128 0.719 0.727 5.332
0.7	1.404 1.096 2.481 9.359	1.409 1.094 2.445 9.241	1.648 0.893 1.297 5.350 3074	1.829 0.684 0.753 3.364 2884	2.092 0.589 0.473 2.980 2127	2.191 0.631 0.543 5.150 1416	2.153 0.695 0.670 5.814 1545	2.132 0.719 0.720 5.911 1635	2.131 0.711 0.722 5.305
0.8	1.410 1.090 2.471 9.324	1.409 1.091 2.469 9.318	1.610 0.911 1.465 5.902 3130	1.863 0.747 0.866 4.082 2773	2.135 0.596 0.480 3.464 1862	2.217 0.627 0.533 5.728 1249	2.156 0.688 0.665 5.775 1544	2.135 0.711 0.715 5.877 1632	2.134 0.703 0.716 5.274
0.9	1.416 1.084 2.458 9.284	1.415 1.084 2.462 9.295	1.626 0.956 1.638 6.776 3080	1.905 0.812 1.007 5.143 2598	2.158 0.622 0.529 4.278 1661	2.212 0.617 0.530 5.472 1300	2.158 0.681 0.659 5.735 1541	2.138 0.704 0.709 5.840 1629	2.137 0.695 0.710 5.238
1.0	1.421 1.077 2.445 9.240	1.422 1.077 2.444 9.240	1.671 1.015 1.839 8.094 2950	1.937 0.875 1.194 6.710 2381	2.169 0.665 0.634 5.648 1506	2.212 0.605 0.529 5.389 1317	2.161 0.674 0.652 5.690 1539	2.140 0.697 0.703 5.797 1626	2.141 0.687 0.702 5.199
F	0.930	1.039	1.278	1.532	1.984	2.734	12.197	—	—
F^x	0.930	0.929	0.740	0.555	0.382	0.346	0.388	0.405	0.410
G^x	—	—	1.053	1.194	1.543	2.311	10.967	—	—

TABLE 4

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ξ	x									
	Considering chemical reactions					Not considering chemical reactions				
	1.0	1.160	1.640	2.040	10.60	1.0	1.160	1.640	2.040	10.60
0.0	1.377 1.156 2.524 10.757	1.516 1.056 — 7.752	2.135 0 0.057 0.439	2.132 0 0.057 0.443	2.133 0 0.056 0.433	1.329 1.115 2.591 6.065	1.486 1.035 1.865 4.796	2.206 0 0.088 0.549	2.207 0 0.091 0.660	2.239 0 0.056 0.399
0.1	1.382 1.149 2.524 10.754	1.495 1.070 1.821 8.259	2.111 0.110 0.077 0.573	2.130 0.009 0.057 0.445	2.132 0.041 0.055 0.429	1.339 1.103 2.589 6.062	1.463 1.041 2.000 5.043	2.124 0.266 0.192 0.956	2.208 0.008 0.093 0.664	2.236 0.038 0.056 0.396
0.2	1.388 1.143 2.521 10.747	1.478 1.080 1.940 8.691	2.048 0.308 0.144 0.990	2.119 0.040 0.069 0.519	2.138 0.072 0.054 0.430	1.349 1.091 2.585 6.055	1.446 1.043 2.111 5.240	2.017 0.476 0.364 1.496	2.180 0.090 0.125 0.705	2.236 0.068 0.056 0.399
0.3	1.393 1.137 2.518 10.735	1.465 1.088 2.044 9.066	1.986 0.450 0.231 1.485	2.087 0.166 0.106 0.757	2.120 0.095 0.054 0.414	1.359 1.080 2.578 6.043	1.434 1.043 2.203 5.403	1.934 0.596 0.536 1.971	2.117 0.254 0.206 0.959	2.230 0.092 0.057 0.389
0.4	1.398 1.131 2.513 10.719	1.454 1.093 2.135 9.392	1.925 0.557 0.339 2.054	2.043 0.287 0.160 1.083	2.159 0.113 0.052 0.417	1.369 1.069 2.568 6.027	1.426 1.041 2.280 5.536	1.870 0.672 0.698 2.381	2.053 0.390 0.310 1.316	2.242 0.111 0.057 0.408
0.5	1.403 1.126 2.507 10.698	1.446 1.097 2.215 9.676	1.872 0.637 0.464 2.685	1.998 0.386 0.232 1.489	2.246 0.122 0.050 0.461	1.379 1.059 2.556 6.007	1.420 1.038 2.344 5.646	1.817 0.725 0.852 2.742	1.995 0.491 0.420 1.652	2.273 0.127 0.056 0.470
0.6	1.408 1.120 2.500 10.674	1.439 1.099 2.294 9.919	1.824 0.700 0.607 3.369	1.952 0.470 0.319 1.951	2.317 0.132 0.043 0.532	1.388 1.048 2.542 5.983	1.416 1.034 2.395 5.733	1.770 0.764 0.996 3.057	1.940 0.571 0.533 1.956	2.309 0.137 0.055 0.577
0.7	1.413 1.114 2.492 10.644	1.434 1.100 2.343 10.122	1.782 0.751 0.764 4.088	1.906 0.544 0.423 2.474	2.351 0.139 0.048 0.784	1.398 1.038 2.526 5.956	1.415 1.030 2.434 5.799	1.738 0.795 1.123 3.346	1.900 0.638 0.649 2.287	2.341 0.150 0.055 0.748
0.8	1.418 1.109 2.482 10.612	1.431 1.100 2.389 10.281	1.743 0.792 0.929 4.793	1.893 0.617 0.541 3.172	2.371 0.194 0.061 1.314	1.407 1.028 2.508 5.925	1.416 1.024 2.460 5.845	1.743 0.837 1.249 3.861	1.905 0.706 0.775 2.888	2.357 0.212 0.072 1.233
0.9	1.423 1.103 2.472 10.575	1.430 1.098 2.424 10.408	1.786 0.865 1.124 6.395	1.970 0.722 0.704 4.761	2.381 0.249 0.087 2.333	1.417 1.019 2.487 5.891	1.420 1.018 2.472 5.867	1.769 0.884 1.386 4.641	1.928 0.777 0.935 3.890	2.369 0.273 0.102 2.246
1.0	1.428 1.098 2.460 10.534	1.433 1.097 2.448 10.433	1.862 0.957 1.404 9.286	2.040 0.826 0.971 7.820	2.383 0.304 0.135 4.225	1.426 1.009 2.465 5.854	1.426 1.009 2.465 5.854	1.804 0.934 1.546 5.770	1.967 0.848 1.148 5.694	2.372 0.335 0.161 4.353
F	0.917	1.062	1.419	1.632	3.730	0.999	1.157	1.558	1.801	4.159
F_x	0.917	0.913	0.598	0.478	0.168	0.999	0.999	0.672	0.551	0.185

TABLE 5

 $x = 1.2$

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ξ	θ								
	0°	22°30'	45°	67°30'	90°	112°30'	135°	157°30'	180°
0.0	1.047	1.054	1.077	1.111	1.156	1.204	1.247	1.279	1.290
	0.984	0.991	1.012	1.044	1.086	1.131	1.172	1.201	1.212
	0.000	0.021	0.039	0.051	0.054	0.050	0.038	0.020	0.000
	3.095	3.053	2.937	2.768	2.575	2.390	2.237	2.136	2.101
	9.990	9.905	9.681	9.375	9.061	8.811	8.688	8.669	8.676
0.1	1.044	1.052	1.076	1.112	1.156	1.202	1.242	1.270	1.280
	0.981	0.989	1.012	1.048	1.091	1.137	1.177	1.205	1.214
	0.000	0.037	0.068	0.090	0.099	0.093	0.073	0.040	0.000
	3.155	3.114	3.001	2.836	2.648	2.467	2.318	2.220	2.186
	10.159	10.085	9.889	9.622	9.347	9.122	8.901	8.967	8.964
0.2	1.042	1.050	1.074	1.109	1.153	1.197	1.236	1.263	1.272
	0.977	0.986	1.010	1.047	1.092	1.138	1.179	1.206	1.216
	0.000	0.045	0.084	0.112	0.123	0.116	0.091	0.050	0.000
	3.210	3.170	3.059	2.897	2.714	2.536	2.390	2.294	2.261
	10.313	10.245	10.066	9.824	9.574	9.368	9.257	9.222	9.217
0.3	1.041	1.049	1.072	1.107	1.150	1.193	1.231	1.257	1.266
	0.974	0.983	1.008	1.046	1.092	1.139	1.179	1.207	1.217
	0.000	0.052	0.097	0.128	0.141	0.133	0.104	0.057	0.000
	3.259	3.220	3.112	2.954	2.773	2.599	2.455	2.361	2.328
	10.450	10.387	10.224	10.003	9.774	9.585	9.481	9.448	9.442
0.4	1.040	1.048	1.071	1.106	1.148	1.190	1.227	1.252	1.261
	0.970	0.979	1.005	1.044	1.091	1.138	1.179	1.207	1.217
	0.000	0.058	0.108	0.143	0.157	0.147	0.115	0.063	0.000
	3.304	3.266	3.159	3.004	2.827	2.656	2.513	2.420	2.387
	10.573	10.514	10.365	10.163	9.954	9.778	9.681	9.648	9.641
0.5	1.040	1.047	1.070	1.105	1.146	1.188	1.224	1.248	1.257
	0.966	0.975	1.002	1.042	1.090	1.138	1.179	1.207	1.217
	0.000	0.063	0.117	0.155	0.170	0.160	0.124	0.068	0.000
	3.345	3.308	3.203	3.050	2.876	2.706	2.565	2.472	2.440
	10.687	10.632	10.494	10.308	10.114	9.951	9.858	9.825	9.817
0.6	1.040	1.048	1.070	1.104	1.145	1.186	1.221	1.245	1.253
	0.962	0.971	0.998	1.039	1.088	1.136	1.178	1.206	1.216
	0.000	0.068	0.126	0.166	0.182	0.170	0.132	0.072	0.000
	3.385	3.348	3.244	3.093	2.920	2.751	2.611	2.518	2.486
	10.796	10.747	10.619	10.444	10.259	10.103	10.012	9.979	9.968
0.7	1.042	1.049	1.071	1.104	1.144	1.184	1.219	1.243	1.251
	0.957	0.967	0.995	1.036	1.085	1.134	1.176	1.205	1.215
	0.000	0.072	0.133	0.176	0.193	0.180	0.140	0.076	0.000
	3.423	3.387	3.284	3.134	2.961	2.792	2.652	2.559	2.526
	10.906	10.861	10.740	10.570	10.392	10.239	10.149	10.113	10.101
0.8	1.042	1.049	1.071	1.104	1.144	1.184	1.219	1.242	1.250
	0.951	0.961	0.989	1.031	1.082	1.132	1.175	1.203	1.214
	0.000	0.076	0.141	0.185	0.202	0.189	0.146	0.080	0.000
	3.459	3.423	3.322	3.173	3.000	2.830	2.689	2.596	2.563
	10.996	10.952	10.840	10.687	10.519	10.370	10.281	10.242	10.228
0.9	1.052	1.058	1.078	1.109	1.146	1.185	1.218	1.241	1.249
	0.953	0.962	0.989	1.030	1.079	1.129	1.171	1.200	1.210
	0.000	0.079	0.147	0.194	0.211	0.197	0.152	0.083	0.000
	3.493	3.458	3.357	3.209	3.036	2.866	2.723	2.629	2.596
	11.142	11.097	10.986	10.821	10.644	10.490	10.389	10.341	10.326
1.0	1.079	1.085	1.102	1.129	1.163	1.198	1.230	1.251	1.259
	0.969	0.978	1.003	1.042	1.089	1.137	1.178	1.206	1.216
	0.000	0.083	0.153	0.201	0.220	0.205	0.158	0.086	0.000
	3.526	3.491	3.392	3.244	3.070	2.898	2.754	2.658	2.625
	11.410	11.364	11.249	11.089	10.904	10.742	10.633	10.581	10.564
F	1.437	1.436	1.435	1.433	1.430	1.425	1.421	1.417	1.415
F _*	1.140	1.142	1.147	1.154	1.159	1.162	1.163	1.162	1.161

TABLE 5 (Continued) 176

 $x = 1.4$

ξ	θ								
	0°	22°30'	45°	67°30'	90°	112°30'	135°	157°30'	180°
0.0	1.309	1.318	1.342	1.381	1.430	1.483	1.531	1.564	1.576
	0.840	0.846	0.862	0.887	0.918	0.952	0.983	1.004	1.012
	0.000	0.022	0.041	0.053	0.057	0.052	0.039	0.021	0.000
	1.705	1.671	1.578	1.443	1.291	1.143	1.018	0.935	0.907
	5.951	5.873	5.652	5.346	5.018	4.731	4.535	4.427	4.393
0.1	1.270	1.278	1.302	1.339	1.384	1.431	1.472	1.501	1.510
	0.861	0.868	0.888	0.919	0.957	0.997	1.031	1.055	1.064
	0.000	0.037	0.069	0.092	0.101	0.095	0.074	0.041	0.000
	1.913	1.881	1.790	1.660	1.512	1.368	1.246	1.166	1.140
	6.575	6.510	6.321	6.062	5.787	5.546	5.385	5.298	5.278
0.2	1.242	1.250	1.273	1.307	1.350	1.394	1.432	1.459	1.468
	0.872	0.880	0.903	0.937	0.979	1.022	1.058	1.083	1.093
	0.000	0.046	0.085	0.113	0.124	0.117	0.092	0.050	0.000
	2.085	2.054	1.966	1.838	1.692	1.549	1.428	1.348	1.321
	7.086	7.028	6.861	6.631	6.389	6.176	6.035	5.962	5.947
0.3	1.220	1.228	1.250	1.283	1.324	1.366	1.403	1.428	1.437
	0.878	0.887	0.911	0.948	0.992	1.037	1.076	1.102	1.111
	0.000	0.052	0.098	0.129	0.142	0.134	0.105	0.057	0.000
	2.234	2.203	2.117	1.992	1.847	1.705	1.584	1.503	1.476
	7.523	7.471	7.322	7.116	6.900	6.709	6.585	6.519	6.508
0.4	1.203	1.211	1.232	1.265	1.305	1.345	1.381	1.405	1.413
	0.881	0.890	0.916	0.955	1.001	1.048	1.087	1.114	1.123
	0.000	0.058	0.108	0.143	0.157	0.148	0.115	0.063	0.000
	2.367	2.337	2.252	2.128	1.985	1.843	1.721	1.640	1.613
	7.906	7.862	7.727	7.547	7.351	7.178	7.066	7.004	6.995
0.5	1.192	1.199	1.219	1.251	1.288	1.327	1.362	1.385	1.394
	0.883	0.893	0.919	0.959	1.006	1.054	1.094	1.121	1.131
	0.000	0.063	0.117	0.155	0.170	0.160	0.124	0.068	0.000
	2.486	2.456	2.374	2.251	2.109	1.967	1.846	1.764	1.737
	8.256	8.218	8.096	7.932	7.750	7.591	7.487	7.428	7.421
0.6	1.178	1.185	1.205	1.237	1.275	1.314	1.348	1.371	1.379
	0.881	0.891	0.918	0.960	1.009	1.058	1.100	1.128	1.138
	0.000	0.067	0.125	0.165	0.181	0.170	0.132	0.072	0.000
	2.594	2.565	2.484	2.363	2.222	2.081	1.959	1.877	1.849
	8.553	8.518	8.414	8.268	8.113	7.971	7.881	7.829	7.823
0.7	1.178	1.184	1.202	1.230	1.264	1.301	1.333	1.356	1.364
	0.887	0.896	0.923	0.963	1.011	1.060	1.102	1.130	1.140
	0.000	0.071	0.132	0.175	0.192	0.179	0.139	0.076	0.000
	2.692	2.664	2.584	2.465	2.326	2.184	2.063	1.980	1.952
	8.881	8.844	8.745	8.601	8.444	8.304	8.210	8.159	8.145
0.8	1.202	1.207	1.221	1.245	1.274	1.306	1.336	1.357	1.364
	0.910	0.918	0.944	0.982	1.028	1.075	1.115	1.143	1.152
	0.000	0.075	0.139	0.183	0.200	0.187	0.145	0.079	0.000
	2.789	2.761	2.682	2.563	2.423	2.281	2.159	2.076	2.047
	9.347	9.310	9.210	9.071	8.915	8.773	8.678	8.630	8.618
0.9	1.243	1.247	1.259	1.278	1.303	1.331	1.357	1.376	1.383
	0.945	0.953	0.977	1.014	1.058	1.103	1.142	1.169	1.178
	0.000	0.078	0.144	0.190	0.208	0.195	0.151	0.082	0.000
	2.890	2.862	2.782	2.664	2.522	2.379	2.255	2.172	2.142
	9.975	9.943	9.854	9.724	9.587	9.477	9.422	9.394	9.389
1.0	1.297	1.300	1.309	1.324	1.345	1.369	1.393	1.410	1.416
	0.989	0.997	1.020	1.055	1.097	1.141	1.179	1.205	1.214
	0.000	0.080	0.149	0.197	0.215	0.202	0.156	0.085	0.000
	3.001	2.973	2.893	2.772	2.629	2.484	2.359	2.274	2.244
	10.835	10.808	10.733	10.642	10.569	10.538	10.541	10.548	10.547
	1.645	1.646	1.646	1.646	1.645	1.643	1.638	1.635	1.633
	0.939	0.943	0.954	0.969	0.984	0.996	1.003	1.006	1.006

TABLE 5 (Continued) /77

 $x = 1.6$

ξ	θ								
	0°	22°30'	45°	67°30'	90°	112°30'	135°	157°30'	180°
0.0	1.643	1.652	1.679	1.722	1.775	1.830	1.878	1.911	1.923
	0.499	0.501	0.510	0.522	0.539	0.556	0.570	0.580	0.584
	0.000	0.024	0.044	0.057	0.062	0.057	0.043	0.023	0.000
	0.637	0.617	0.561	0.482	0.394	0.314	0.256	0.223	0.212
	2.553	2.496	2.342	2.118	1.881	1.661	1.480	1.364	1.324
0.1	1.545	1.555	1.578	1.615	1.661	1.707	1.746	1.771	1.779
	0.612	0.618	0.635	0.661	0.694	0.729	0.761	0.783	0.792
	0.000	0.038	0.070	0.092	0.100	0.093	0.072	0.039	0.000
	0.914	0.892	0.834	0.748	0.652	0.559	0.489	0.447	0.435
	3.474	3.422	3.282	3.076	2.858	2.668	2.527	2.436	2.415
0.2	1.472	1.480	1.502	1.536	1.577	1.620	1.655	1.679	1.685
	0.679	0.687	0.708	0.741	0.782	0.823	0.859	0.885	0.895
	0.000	0.046	0.085	0.112	0.123	0.115	0.089	0.049	0.000
	1.168	1.147	1.087	0.998	0.896	0.795	0.714	0.665	0.652
	4.291	4.245	4.118	3.930	3.733	3.558	3.439	3.374	3.364
0.3	1.420	1.427	1.448	1.480	1.518	1.558	1.592	1.614	1.620
	0.719	0.728	0.752	0.789	0.834	0.879	0.918	0.945	0.955
	0.000	0.052	0.097	0.128	0.141	0.132	0.103	0.056	0.000
	1.373	1.362	1.301	1.213	1.109	1.004	0.917	0.863	0.848
	4.962	4.923	4.812	4.650	4.478	4.322	4.218	4.167	4.163
0.4	1.381	1.388	1.408	1.437	1.473	1.511	1.544	1.566	1.573
	0.749	0.757	0.783	0.822	0.868	0.914	0.954	0.981	0.991
	0.000	0.058	0.107	0.142	0.155	0.146	0.113	0.062	0.000
	1.577	1.556	1.495	1.404	1.297	1.189	1.096	1.037	1.019
	5.564	5.532	5.431	5.282	5.120	4.970	4.871	4.825	4.817
0.5	1.346	1.352	1.372	1.401	1.437	1.475	1.507	1.529	1.537
	0.765	0.774	0.801	0.843	0.892	0.941	0.982	1.010	1.019
	0.000	0.062	0.116	0.153	0.168	0.158	0.122	0.067	0.000
	1.740	1.719	1.660	1.572	1.466	1.357	1.261	1.199	1.178
	6.043	6.015	5.934	5.813	5.684	5.559	5.479	5.441	5.432
0.6	1.332	1.337	1.353	1.378	1.410	1.444	1.475	1.497	1.505
	0.785	0.794	0.820	0.860	0.909	0.958	0.999	1.027	1.036
	0.000	0.066	0.123	0.163	0.179	0.168	0.130	0.071	0.000
	1.883	1.863	1.804	1.716	1.610	1.499	1.403	1.340	1.318
	6.518	6.488	6.406	6.285	6.154	6.033	5.954	5.916	5.906
0.7	1.350	1.354	1.366	1.385	1.411	1.439	1.466	1.486	1.493
	0.819	0.828	0.853	0.891	0.938	0.984	1.024	1.050	1.059
	0.000	0.070	0.130	0.171	0.187	0.176	0.136	0.075	0.000
	2.015	1.995	1.936	1.847	1.740	1.628	1.531	1.467	1.443
	7.097	7.067	6.988	6.872	6.737	6.617	6.535	6.502	6.486
0.8	1.390	1.393	1.401	1.416	1.435	1.459	1.482	1.500	1.507
	0.863	0.872	0.896	0.933	0.977	1.022	1.060	1.086	1.094
	0.000	0.072	0.135	0.178	0.195	0.183	0.142	0.078	0.000
	2.154	2.133	2.072	1.980	1.869	1.755	1.657	1.592	1.568
	7.866	7.837	7.761	7.647	7.535	7.447	7.404	7.391	7.381
0.9	1.443	1.445	1.450	1.460	1.476	1.495	1.515	1.531	1.537
	0.913	0.922	0.946	0.982	1.024	1.068	1.105	1.130	1.138
	0.000	0.075	0.140	0.184	0.202	0.190	0.147	0.080	0.000
	2.303	2.281	2.219	2.125	2.011	1.894	1.794	1.728	1.702
	8.895	8.875	8.828	8.761	8.711	8.685	8.673	8.657	8.644
1.0	1.511	1.512	1.515	1.521	1.531	1.545	1.560	1.572	1.578
	0.970	0.978	1.002	1.037	1.079	1.120	1.156	1.179	1.187
	0.000	0.078	0.145	0.191	0.210	0.197	0.153	0.084	0.000
	2.478	2.455	2.391	2.295	2.179	2.060	1.956	1.886	1.859
	10.534	10.533	10.537	10.546	10.542	10.499	10.411	10.326	10.287
$\frac{F}{F}$	1.816	1.817	1.820	1.823	1.826	1.826	1.824	1.821	1.820
	0.773	0.778	0.790	0.809	0.829	0.847	0.860	0.868	0.869

TABLE 5 (Continued) 78

 $x = 1.8$

λ	θ								
	0°	22°30'	45°	67°30'	90°	112°30'	135°	157°30'	180°
0.0	1.844 0.099 0.000 0.234 1.111	1.853 0.100 0.027 0.223 1.083	1.881 0.101 0.049 0.194 0.984	1.922 0.103 0.064 0.155 0.855	1.971 0.106 0.069 0.117 0.705	2.021 0.109 0.063 0.087 0.573	2.065 0.111 0.048 0.067 0.465	2.096 0.113 0.025 0.053 0.408	2.108 0.113 0.000 0.052 0.391
0.1	1.751 0.305 0.000 0.414 1.773	1.759 0.310 0.037 0.401 1.746	1.784 0.324 0.069 0.366 1.643	1.821 0.347 0.090 0.315 1.513	1.864 0.378 0.098 0.261 1.368	1.907 0.411 0.090 0.215 1.229	1.944 0.438 0.068 0.180 1.099	1.971 0.455 0.037 0.160 1.021	1.980 0.462 0.000 0.153 0.999
0.2	1.667 0.438 0.000 0.610 2.457	1.674 0.445 0.045 0.596 2.427	1.697 0.465 0.083 0.556 2.326	1.731 0.495 0.109 0.496 2.191	1.772 0.533 0.118 0.429 2.041	1.812 0.575 0.110 0.368 1.915	1.845 0.612 0.084 0.323 1.802	1.869 0.636 0.045 0.295 1.728	1.878 0.643 0.000 0.285 1.696
0.3	1.598 0.524 0.000 0.799 3.087	1.605 0.532 0.050 0.784 3.058	1.626 0.555 0.094 0.742 2.967	1.658 0.591 0.123 0.678 2.843	1.697 0.634 0.135 0.603 2.702	1.736 0.679 0.126 0.531 2.582	1.767 0.721 0.097 0.477 2.491	1.788 0.748 0.053 0.445 2.433	1.796 0.756 0.000 0.431 2.398
0.4	1.544 0.587 0.000 0.979 3.687	1.551 0.596 0.056 0.964 3.661	1.571 0.622 0.103 0.921 3.578	1.600 0.661 0.136 0.856 3.469	1.635 0.707 0.149 0.778 3.339	1.671 0.754 0.139 0.699 3.224	1.700 0.796 0.108 0.638 3.150	1.719 0.825 0.059 0.602 3.110	1.727 0.834 0.000 0.586 3.080
0.5	1.492 0.632 0.000 1.148 4.213	1.498 0.642 0.060 1.133 4.193	1.516 0.669 0.112 1.091 4.124	1.544 0.711 0.147 1.027 4.034	1.579 0.760 0.161 0.948 3.929	1.616 0.810 0.151 0.866 3.837	1.646 0.852 0.117 0.799 3.780	1.665 0.881 0.064 0.759 3.761	1.674 0.890 0.000 0.740 3.738
0.6	1.469 0.676 0.000 1.305 4.762	1.474 0.685 0.064 1.290 4.742	1.487 0.712 0.119 1.248 4.669	1.509 0.753 0.157 1.182 4.579	1.538 0.801 0.172 1.102 4.470	1.570 0.850 0.161 1.019 4.377	1.598 0.892 0.125 0.949 4.322	1.617 0.920 0.068 0.907 4.314	1.626 0.928 0.000 0.887 4.289
0.7	1.487 0.728 0.000 1.459 5.448	1.489 0.737 0.067 1.443 5.428	1.498 0.763 0.125 1.400 5.358	1.512 0.803 0.164 1.334 5.267	1.532 0.849 0.180 1.253 5.160	1.556 0.896 0.169 1.170 5.078	1.580 0.935 0.131 1.099 5.028	1.597 0.962 0.072 1.054 5.020	1.604 0.968 0.000 1.032 4.974
0.8	1.527 0.788 0.000 1.627 6.386	1.529 0.797 0.070 1.611 6.369	1.533 0.822 0.130 1.566 6.307	1.542 0.860 0.171 1.496 6.230	1.557 0.904 0.188 1.412 6.166	1.576 0.949 0.176 1.326 6.128	1.596 0.987 0.137 1.254 6.113	1.611 1.013 0.075 1.208 6.107	1.617 1.019 0.000 1.184 6.051
0.9	1.589 0.852 0.000 1.817 7.825	1.589 0.861 0.072 1.800 7.820	1.590 0.885 0.135 1.753 7.799	1.595 0.923 0.178 1.683 7.788	1.604 0.967 0.195 1.599 7.779	1.617 1.011 0.183 1.513 7.750	1.633 1.049 0.143 1.438 7.690	1.644 1.074 0.078 1.387 7.646	1.651 1.081 0.000 1.361 7.587
1.0	1.676 0.929 0.000 2.069 10.504	1.675 0.937 0.075 2.052 10.497	1.673 0.962 0.140 2.002 10.455	1.672 0.998 0.186 1.927 10.378	1.673 1.040 0.205 1.836 10.252	1.678 1.082 0.192 1.741 10.095	1.686 1.117 0.150 1.658 9.923	1.693 1.140 0.082 1.601 9.800	1.699 1.148 0.000 1.574 9.737
F	1.958	1.960	1.966	1.974	1.981	1.985	1.986	1.985	1.984
F_x	0.657	0.662	0.676	0.698	0.723	0.746	0.764	0.775	0.777

TABLE 5 Continued)

/79

 $x = 2.0$

ϕ	θ								
	0°	22°30'	45°	67°30'	90°	112°30'	135°	157°30'	180°
0.0	1.871 0.000 0.000 0.187 0.928	1.880 0.000 0.030 0.177 0.893	1.907 0.000 0.055 0.153 0.810	1.947 0.000 0.072 0.120 0.688	1.995 0.000 0.077 0.089 0.561	2.045 0.000 0.070 0.065 0.442	2.089 0.000 0.053 0.049 0.356	2.119 0.000 0.028 0.040 0.308	2.131 0.000 0.000 0.037 0.289
0.1	1.855 0.047 0.000 0.217 1.049	1.864 0.050 0.038 0.208 1.024	1.889 0.060 0.070 0.185 0.948	1.926 0.078 0.091 0.153 0.844	1.969 0.103 0.098 0.121 0.731	2.013 0.127 0.089 0.095 0.616	2.052 0.146 0.067 0.077 0.527	2.080 0.158 0.036 0.066 0.476	2.090 0.161 0.000 0.062 0.453
0.2	1.793 0.201 0.000 0.332 1.476	1.801 0.207 0.044 0.322 1.449	1.824 0.225 0.081 0.294 1.377	1.859 0.254 0.106 0.256 1.278	1.899 0.294 0.114 0.215 1.172	1.939 0.333 0.104 0.179 1.061	1.976 0.363 0.079 0.152 0.952	2.001 0.382 0.043 0.135 0.886	2.011 0.387 0.000 0.128 0.855
0.3	1.730 0.323 0.000 0.464 1.947	1.738 0.330 0.049 0.453 1.922	1.760 0.352 0.090 0.423 1.850	1.793 0.385 0.118 0.377 1.754	1.832 0.429 0.128 0.327 1.648	1.869 0.476 0.118 0.282 1.549	1.901 0.514 0.090 0.247 1.442	1.923 0.537 0.049 0.225 1.374	1.933 0.542 0.000 0.215 1.332
0.4	1.675 0.417 0.000 0.603 2.434	1.682 0.425 0.053 0.592 2.412	1.701 0.450 0.099 0.560 2.343	1.731 0.486 0.130 0.510 2.249	1.767 0.532 0.141 0.452 2.138	1.802 0.581 0.131 0.399 2.049	1.831 0.623 0.101 0.359 1.964	1.852 0.650 0.055 0.334 1.908	1.862 0.655 0.000 0.320 1.863
0.5	1.618 0.488 0.000 0.746 2.903	1.624 0.498 0.057 0.734 2.885	1.643 0.524 0.106 0.701 2.829	1.673 0.565 0.140 0.650 2.749	1.709 0.613 0.153 0.588 2.654	1.744 0.664 0.143 0.528 2.580	1.772 0.708 0.110 0.484 2.526	1.791 0.737 0.060 0.457 2.489	1.801 0.742 0.000 0.441 2.442
0.6	1.578 0.549 0.000 0.886 3.385	1.583 0.559 0.061 0.874 3.365	1.597 0.586 0.113 0.842 3.313	1.621 0.628 0.150 0.791 3.238	1.652 0.677 0.164 0.729 3.153	1.685 0.727 0.153 0.666 3.085	1.712 0.771 0.118 0.619 3.061	1.730 0.801 0.065 0.592 3.053	1.740 0.807 0.000 0.575 3.020
0.7	1.582 0.616 0.000 1.032 4.013	1.585 0.625 0.064 1.020 3.993	1.593 0.652 0.119 0.988 3.942	1.608 0.692 0.158 0.937 3.869	1.628 0.740 0.173 0.876 3.785	1.652 0.788 0.162 0.813 3.718	1.674 0.828 0.125 0.763 3.691	1.689 0.856 0.069 0.735 3.689	1.696 0.861 0.000 0.716 3.640
0.8	1.622 0.691 0.000 1.201 4.952	1.623 0.700 0.067 1.189 4.937	1.626 0.726 0.124 1.156 4.890	1.633 0.765 0.164 1.104 4.839	1.646 0.811 0.180 1.042 4.798	1.663 0.856 0.169 0.979 4.765	1.680 0.896 0.131 0.927 4.744	1.693 0.923 0.072 0.895 4.737	1.698 0.927 0.000 0.874 4.665
0.9	1.695 0.773 0.000 1.418 6.703	1.694 0.783 0.070 1.406 6.698	1.694 0.809 0.130 1.372 6.677	1.695 0.848 0.172 1.320 6.644	1.701 0.894 0.189 1.257 6.599	1.710 0.940 0.177 1.191 6.531	1.722 0.979 0.138 1.135 6.462	1.731 1.005 0.076 1.098 6.420	1.737 1.011 0.000 1.073 6.337
1.0	1.803 0.874 0.000 1.748 10.105	1.801 0.883 0.073 1.735 10.080	1.796 0.909 0.137 1.698 10.006	1.789 0.948 0.181 1.639 9.883	1.784 0.993 0.199 1.567 9.719	1.784 1.036 0.188 1.490 9.524	1.787 1.073 0.146 1.421 9.334	1.790 1.097 0.081 1.374 9.198	1.796 1.103 0.000 1.347 9.118
F	2.081	2.084	2.093	2.105	2.117	2.127	2.131	2.133	2.133
F_x	0.572	0.578	0.594	0.618	0.645	0.651	0.692	0.705	0.706

TABLE 5 (Continued)

/80

$$x = 2.4$$

ϕ	θ								
	0°	22°30'	45°	67°30'	90°	112°30'	135°	157°30'	180°
0.0	1.867	1.876	1.901	1.940	1.989	2.040	2.085	2.117	2.129
	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.037	0.068	0.089	0.095	0.087	0.065	0.035	0.000
	0.194	0.185	0.160	0.126	0.093	0.068	0.051	0.042	0.039
	0.961	0.926	0.837	0.713	0.579	0.460	0.373	0.321	0.306
0.1	1.868	1.877	1.904	1.944	1.992	2.040	2.083	2.112	2.123
	-0.011	-0.011	-0.010	-0.010	-0.007	-0.003	0.002	0.005	0.007
	0.000	0.046	0.085	0.110	0.117	0.106	0.080	0.042	0.000
	0.192	0.183	0.159	0.126	0.094	0.070	0.053	0.044	0.041
	0.950	0.920	0.834	0.720	0.589	0.470	0.384	0.333	0.316
0.2	1.861	1.869	1.893	1.927	1.966	2.007	2.043	2.068	2.078
	0.012	0.016	0.031	0.059	0.098	0.135	0.165	0.183	0.188
	0.000	0.049	0.091	0.118	0.126	0.115	0.087	0.047	0.000
	0.205	0.198	0.178	0.153	0.127	0.104	0.087	0.077	0.073
	1.001	0.979	0.919	0.849	0.759	0.666	0.589	0.539	0.523
0.3	1.822	1.829	1.849	1.878	1.913	1.951	1.984	2.008	2.018
	0.130	0.138	0.161	0.200	0.249	0.296	0.333	0.355	0.360
	0.000	0.052	0.097	0.127	0.136	0.125	0.095	0.051	0.000
	0.278	0.271	0.252	0.224	0.195	0.168	0.146	0.132	0.126
	1.275	1.257	1.209	1.152	1.078	0.998	0.920	0.866	0.843
0.4	1.776	1.783	1.803	1.833	1.866	1.899	1.927	1.948	1.957
	0.240	0.248	0.273	0.311	0.361	0.414	0.455	0.481	0.486
	0.000	0.055	0.103	0.135	0.146	0.134	0.102	0.056	0.000
	0.367	0.360	0.338	0.305	0.271	0.240	0.215	0.199	0.192
	1.605	1.588	1.542	1.486	1.416	1.349	1.281	1.232	1.205
0.5	1.728	1.733	1.751	1.779	1.812	1.844	1.872	1.892	1.902
	0.326	0.336	0.363	0.404	0.456	0.510	0.554	0.582	0.587
	0.000	0.058	0.108	0.142	0.155	0.143	0.110	0.060	0.000
	0.5	0.450	0.421	0.395	0.359	0.326	0.300	0.281	0.274
	1.924	1.909	1.871	1.824	1.772	1.735	1.699	1.666	1.639
0.6	1.707	1.710	1.721	1.740	1.766	1.793	1.816	1.833	1.842
	0.406	0.416	0.443	0.484	0.533	0.585	0.629	0.658	0.663
	0.000	0.061	0.113	0.149	0.163	0.151	0.116	0.064	0.000
	0.553	0.545	0.524	0.492	0.454	0.420	0.395	0.378	0.368
	2.291	2.275	2.236	2.193	2.141	2.122	2.114	2.100	2.079
0.7	1.727	1.728	1.734	1.744	1.759	1.777	1.793	1.804	1.810
	0.485	0.494	0.521	0.562	0.609	0.658	0.701	0.731	0.735
	0.000	0.063	0.117	0.154	0.169	0.158	0.122	0.067	0.000
	0.660	0.653	0.632	0.600	0.562	0.527	0.501	0.485	0.474
	2.852	2.838	2.798	2.757	2.707	2.687	2.680	2.675	2.636
0.8	1.776	1.776	1.777	1.780	1.788	1.800	1.812	1.820	1.825
	0.565	0.574	0.602	0.643	0.692	0.741	0.785	0.815	0.820
	0.000	0.065	0.120	0.159	0.174	0.163	0.127	0.069	0.000
	0.796	0.788	0.768	0.736	0.698	0.661	0.633	0.615	0.601
	3.797	3.788	3.763	3.730	3.688	3.650	3.628	3.616	3.559
0.9	1.870	1.868	1.864	1.861	1.859	1.862	1.867	1.871	1.877
	0.660	0.670	0.699	0.742	0.793	0.843	0.885	0.915	0.920
	0.000	0.067	0.126	0.166	0.182	0.172	0.133	0.073	0.000
	0.993	0.986	0.965	0.933	0.893	0.851	0.815	0.793	0.775
	5.656	5.640	5.595	5.530	5.439	5.351	5.282	5.242	5.180
1.0	1.972	1.969	1.961	1.950	1.939	1.932	1.928	1.927	1.931
	0.765	0.776	0.806	0.850	0.900	0.948	0.988	1.015	1.021
	0.000	0.070	0.130	0.173	0.191	0.180	0.140	0.078	0.000
	1.316	1.307	1.283	1.244	1.194	1.140	1.091	1.059	1.036
	9.223	8.996	8.915	8.792	8.623	8.439	8.265	8.144	8.052
F	2.286	2.292	2.307	2.329	2.353	2.373	2.387	2.394	2.394
F_x	0.463	0.469	0.486	0.511	0.540	0.569	0.593	0.608	0.610

TABLE 5 (Continued) /81

 $x = 2.968$ θ

ξ	0°	22°30'	45°	67°30'	90°	112°30'	135°	157°30'	180°
0.0	1.867 0.000 0.000 0.193 0.975	1.876 0.000 0.045 0.185 0.921	1.900 0.000 0.084 0.161 0.852	1.937 0.000 0.110 0.130 0.740	1.983 0.000 0.119 0.098 0.617	2.035 0.000 0.109 0.072 0.485	2.078 0.000 0.083 0.054 0.389	2.111 0.000 0.045 0.045 0.343	2.123 0.000 0.000 0.041 0.318
0.1	1.860 -0.001 0.000 0.192 0.965	1.877 -0.001 0.054 0.184 0.917	1.902 -0.001 0.100 0.161 0.849	1.939 -0.001 0.131 0.129 0.737	1.986 -0.002 0.140 0.097 0.614	2.036 -0.005 0.128 0.072 0.481	2.081 -0.009 0.097 0.054 0.386	2.112 -0.011 0.052 0.044 0.339	2.124 -0.013 0.000 0.041 0.315
0.2	1.869 -0.004 0.000 0.188 0.941	1.878 -0.004 0.056 0.180 0.890	1.903 -0.004 0.104 0.157 0.828	1.942 -0.004 0.135 0.127 0.723	1.989 -0.002 0.144 0.097 0.610	2.037 0.004 0.132 0.073 0.494	2.078 0.012 0.099 0.057 0.407	2.106 0.021 0.053 0.049 0.367	2.117 0.022 0.000 0.046 0.346
0.3	1.873 0.001 0.000 0.187 0.943	1.881 0.003 0.057 0.180 0.898	1.903 0.013 0.106 0.161 0.854	1.935 0.037 0.137 0.139 0.784	1.971 0.074 0.147 0.118 0.717	2.011 0.112 0.135 0.099 0.640	2.047 0.143 0.102 0.084 0.569	2.072 0.163 0.055 0.075 0.532	2.082 0.166 0.000 0.072 0.514
0.4	1.853 0.068 0.000 0.217 1.057	1.858 0.077 0.058 0.213 1.025	1.877 0.102 0.108 0.200 1.012	1.905 0.143 0.141 0.182 0.979	1.938 0.193 0.151 0.162 0.938	1.973 0.238 0.139 0.142 0.878	2.004 0.273 0.106 0.125 0.803	2.027 0.295 0.057 0.115 0.762	2.036 0.298 0.000 0.110 0.743
0.5	1.818 0.165 0.000 0.273 1.253	1.823 0.173 0.060 0.268 1.222	1.839 0.199 0.110 0.251 1.209	1.865 0.239 0.145 0.234 1.184	1.897 0.290 0.157 0.214 1.167	1.930 0.340 0.144 0.194 1.138	1.961 0.379 0.110 0.176 1.081	1.983 0.404 0.060 0.165 1.046	1.992 0.408 0.000 0.151 1.026
0.6	1.810 0.250 0.000 0.333 1.536	1.813 0.259 0.061 0.328 1.501	1.822 0.285 0.113 0.314 1.484	1.839 0.324 0.148 0.295 1.451	1.861 0.374 0.161 0.274 1.429	1.886 0.426 0.149 0.255 1.418	1.910 0.469 0.114 0.238 1.381	1.929 0.497 0.062 0.227 1.356	1.938 0.502 0.000 0.221 1.338
0.7	1.837 0.332 0.000 0.406 1.963	1.838 0.341 0.061 0.402 1.932	1.841 0.368 0.114 0.388 1.914	1.849 0.409 0.151 0.369 1.882	1.860 0.459 0.165 0.348 1.855	1.873 0.511 0.153 0.329 1.841	1.888 0.556 0.118 0.313 1.805	1.900 0.586 0.065 0.301 1.777	1.905 0.590 0.000 0.294 1.747
0.8	1.898 0.422 0.000 0.510 2.801	1.897 0.432 0.063 0.506 2.766	1.896 0.461 0.117 0.493 2.738	1.896 0.504 0.154 0.473 2.684	1.900 0.555 0.169 0.448 2.627	1.908 0.608 0.158 0.426 2.580	1.915 0.655 0.122 0.409 2.539	1.922 0.686 0.067 0.397 2.506	1.927 0.692 0.000 0.387 2.459
0.9	2.010 0.531 0.000 0.675 4.451	2.009 0.542 0.065 0.670 4.407	2.002 0.573 0.121 0.655 4.358	1.995 0.620 0.160 0.634 4.281	1.990 0.674 0.176 0.607 4.189	1.987 0.728 0.165 0.579 4.095	1.987 0.774 0.128 0.557 4.022	1.988 0.806 0.071 0.543 3.971	1.993 0.813 0.000 0.530 3.916
1.0	2.104 0.645 0.000 0.971 7.828	2.101 0.656 0.067 0.965 7.782	2.092 0.690 0.124 0.949 7.730	2.079 0.738 0.165 0.922 7.630	2.065 0.795 0.182 0.889 7.513	2.054 0.849 0.172 0.853 7.373	2.046 0.894 0.134 0.820 7.215	2.042 0.924 0.075 0.798 7.148	2.044 0.931 0.000 0.780 7.074
F	2.521	2.530	2.555	2.591	2.632	2.660	2.697	2.714	2.715
F_x	0.375	0.380	0.397	0.422	0.453	0.483	0.509	0.527	0.529

$x = 4.008$

ξ	θ								
	0°	22°30'	45°	67°30'	90°	112°30'	135°	157°30'	180°
0.0	1.878	1.884	1.904	1.935	1.978	2.026	2.071	2.104	2.117
	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.058	0.108	0.144	0.158	0.148	0.114	0.062	0.000
	0.174	0.168	0.150	0.125	0.099	0.075	0.058	0.048	0.045
0.1	0.875	0.858	0.799	0.714	0.609	0.504	0.408	0.361	0.338
	1.879	1.886	1.906	1.938	1.980	2.028	2.072	2.105	2.118
	0.011	0.011	0.013	0.014	0.012	0.008	0.003	-0.003	-0.006
	0.000	0.065	0.122	0.162	0.177	0.166	0.128	0.069	0.000
0.2	0.174	0.168	0.150	0.126	0.099	0.076	0.059	0.048	0.045
	0.870	0.856	0.801	0.720	0.616	0.507	0.407	0.356	0.332
	1.882	1.889	1.908	1.940	1.982	2.030	2.076	2.108	2.120
	0.019	0.019	0.021	0.021	0.018	0.009	-0.003	-0.012	-0.017
0.3	0.000	0.066	0.123	0.162	0.176	0.163	0.124	0.067	0.000
	0.172	0.166	0.149	0.125	0.098	0.075	0.057	0.047	0.044
	0.867	0.853	0.800	0.717	0.612	0.501	0.401	0.351	0.329
	1.879	1.887	1.909	1.944	1.987	2.030	2.068	2.095	2.104
0.4	0.022	0.022	0.024	0.022	0.019	0.023	0.037	0.052	0.054
	0.000	0.065	0.120	0.157	0.170	0.156	0.119	0.064	0.000
	0.169	0.163	0.147	0.123	0.097	0.077	0.065	0.057	0.055
	0.858	0.843	0.794	0.712	0.609	0.516	0.444	0.413	0.398
0.5	1.882	1.888	1.907	1.937	1.972	2.009	2.043	2.067	2.076
	0.022	0.023	0.027	0.042	0.077	0.116	0.149	0.170	0.174
	0.000	0.063	0.117	0.153	0.166	0.153	0.117	0.064	0.000
	0.165	0.159	0.145	0.127	0.113	0.101	0.090	0.082	0.079
0.6	0.828	0.815	0.771	0.721	0.685	0.646	0.596	0.568	0.552
	1.898	1.901	1.909	1.922	1.944	1.974	2.005	2.029	2.038
	0.046	0.053	0.077	0.118	0.167	0.213	0.251	0.275	0.280
	0.000	0.062	0.116	0.152	0.165	0.152	0.117	0.064	0.000
0.7	0.173	0.170	0.163	0.154	0.144	0.132	0.121	0.113	0.110
	0.902	0.896	0.873	0.855	0.840	0.811	0.770	0.749	0.735
	1.923	1.923	1.926	1.931	1.942	1.958	1.978	1.994	2.001
	0.121	0.131	0.159	0.201	0.253	0.303	0.345	0.372	0.377
0.8	0.000	0.062	0.115	0.151	0.164	0.152	0.117	0.064	0.000
	0.209	0.207	0.200	0.191	0.181	0.169	0.158	0.150	0.146
	1.134	1.131	1.106	1.081	1.057	1.020	0.977	0.957	0.938
	1.972	1.971	1.969	1.969	1.971	1.978	1.988	1.998	2.001
0.9	0.206	0.216	0.244	0.288	0.341	0.395	0.440	0.470	0.476
	0.000	0.062	0.114	0.150	0.164	0.152	0.117	0.065	0.000
	0.260	0.257	0.249	0.238	0.226	0.214	0.203	0.195	0.191
	1.532	1.526	1.488	1.440	1.399	1.350	1.304	1.282	1.255
1.0	2.068	2.066	2.060	2.053	2.048	2.045	2.046	2.050	2.054
	0.300	0.311	0.342	0.389	0.445	0.502	0.550	0.582	0.589
	0.000	0.062	0.116	0.153	0.167	0.155	0.120	0.066	0.000
	0.331	0.328	0.319	0.306	0.292	0.279	0.267	0.258	0.252
1.1	2.250	2.239	2.181	2.108	2.038	1.968	1.908	1.878	1.845
	2.165	2.162	2.155	2.145	2.134	2.126	2.120	2.117	2.121
	0.403	0.415	0.449	0.500	0.560	0.620	0.670	0.704	0.712
	0.000	0.063	0.117	0.155	0.170	0.160	0.124	0.068	0.000
1.2	0.448	0.445	0.435	0.420	0.403	0.385	0.371	0.360	0.351
	3.667	3.651	3.581	3.482	3.380	3.277	3.193	3.145	3.103
	2.220	2.217	2.208	2.196	2.182	2.169	2.159	2.153	2.154
	0.501	0.514	0.551	0.604	0.667	0.728	0.779	0.813	0.821
1.3	0.000	0.063	0.118	0.157	0.173	0.163	0.127	0.071	0.000
	0.659	0.656	0.646	0.629	0.608	0.584	0.564	0.551	0.539
	6.646	6.643	6.605	6.550	6.485	6.403	6.331	6.292	6.252
	2.861	2.876	2.918	2.980	3.052	3.122	3.177	3.213	3.218
F_x	0.287	0.293	0.309	0.334	0.364	0.396	0.423	0.442	0.446

TABLE 5 (Concluded) /83

 $x = 7.448$

ξ	θ								
	0°	22°30'	45°	67°30'	90°	112°30'	135°	157°30'	180°
0.0	1.919	1.921	1.932	1.946	1.969	2.002	2.043	2.082	2.098
	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.076	0.146	0.203	0.239	0.244	0.206	0.119	0.000
	0.118	0.115	0.106	0.095	0.084	0.074	0.066	0.061	0.060
	0.644	0.634	0.604	0.548	0.518	0.480	0.455	0.446	0.440
0.1	1.918	1.921	1.930	1.946	1.970	2.005	2.047	2.086	2.102
	0.000	0.002	0.008	0.017	0.026	0.031	0.029	0.021	0.016
	0.000	0.077	0.148	0.204	0.240	0.245	0.208	0.122	0.000
	0.118	0.116	0.108	0.098	0.088	0.077	0.068	0.061	0.058
	0.641	0.633	0.610	0.563	0.540	0.504	0.468	0.441	0.425
0.2	1.915	1.919	1.931	1.950	1.978	2.014	2.056	2.093	2.107
	0.004	0.008	0.018	0.034	0.048	0.054	0.047	0.032	0.022
	0.000	0.075	0.142	0.194	0.225	0.226	0.187	0.108	0.000
	0.119	0.117	0.110	0.101	0.090	0.079	0.067	0.058	0.054
	0.644	0.637	0.622	0.581	0.560	0.517	0.466	0.422	0.396
0.3	1.917	1.920	1.929	1.945	1.972	2.012	2.059	2.098	2.113
	0.013	0.019	0.033	0.052	0.069	0.073	0.058	0.035	0.022
	0.000	0.072	0.136	0.185	0.210	0.206	0.166	0.093	0.000
	0.121	0.119	0.112	0.103	0.091	0.078	0.065	0.054	0.050
	0.654	0.646	0.630	0.585	0.562	0.513	0.450	0.396	0.367
0.4	1.961	1.962	1.967	1.976	1.994	2.026	2.065	2.095	2.106
	0.027	0.033	0.050	0.071	0.086	0.083	0.065	0.060	0.062
	0.000	0.068	0.128	0.173	0.194	0.187	0.147	0.081	0.000
	0.124	0.121	0.114	0.104	0.091	0.075	0.061	0.053	0.051
	0.718	0.708	0.681	0.623	0.576	0.500	0.425	0.387	0.370
0.5	2.034	2.033	2.032	2.033	2.042	2.058	2.075	2.090	2.096
	0.044	0.051	0.068	0.087	0.095	0.101	0.131	0.155	0.161
	0.000	0.065	0.122	0.162	0.179	0.170	0.133	0.074	0.000
	0.127	0.124	0.116	0.104	0.088	0.074	0.068	0.064	0.062
	0.820	0.807	0.764	0.680	0.598	0.516	0.482	0.465	0.448
0.6	2.138	2.136	2.130	2.123	2.113	2.104	2.107	2.115	2.118
	0.060	0.066	0.081	0.099	0.132	0.183	0.223	0.248	0.255
	0.000	0.064	0.118	0.156	0.171	0.160	0.125	0.070	0.000
	0.128	0.125	0.116	0.102	0.092	0.087	0.081	0.077	0.075
	0.961	0.938	0.867	0.753	0.679	0.639	0.603	0.577	0.556
0.7	2.231	2.228	2.220	2.205	2.189	2.177	2.172	2.172	2.176
	0.077	0.085	0.112	0.162	0.222	0.275	0.319	0.349	0.357
	0.000	0.063	0.117	0.153	0.167	0.156	0.121	0.067	0.000
	0.130	0.127	0.121	0.117	0.112	0.105	0.098	0.094	0.091
	1.155	1.129	1.063	0.998	0.941	0.874	0.823	0.787	0.763
0.8	2.286	2.284	2.277	2.267	2.254	2.244	2.237	2.234	2.236
	0.144	0.157	0.194	0.246	0.309	0.370	0.420	0.454	0.463
	0.000	0.061	0.114	0.150	0.164	0.153	0.119	0.066	0.000
	0.160	0.159	0.155	0.148	0.140	0.133	0.125	0.120	0.117
	1.722	1.701	1.643	1.549	1.444	1.346	1.269	1.216	1.190
0.9	2.321	2.319	2.313	2.304	2.293	2.283	2.274	2.269	2.270
	0.216	0.229	0.266	0.323	0.391	0.457	0.512	0.549	0.558
	0.000	0.060	0.112	0.147	0.161	0.151	0.117	0.065	0.000
	0.217	0.215	0.210	0.202	0.193	0.183	0.174	0.169	0.164
	2.965	2.942	2.876	2.765	2.645	2.529	2.432	2.360	2.329
1.0	2.341	2.339	2.332	2.323	2.310	2.297	2.287	2.280	2.280
	0.283	0.298	0.338	0.398	0.468	0.538	0.597	0.636	0.647
	0.000	0.059	0.110	0.145	0.160	0.150	0.117	0.066	0.000
	0.319	0.318	0.315	0.308	0.301	0.292	0.283	0.277	0.271
	5.480	5.475	5.459	5.423	5.395	5.354	5.314	5.277	5.241
F	3.609	3.642	3.738	3.885	4.062	4.243	4.397	4.501	4.522
F _x	0.170	0.175	0.190	0.214	0.246	0.279	0.309	0.330	0.335

a half cone angle of 20° when $x = 29.8$ all functions when $\xi \geq 0.05$ are close to their values in the corresponding conic flow. The layer of the large values of entropy functions in this case is "compressed" directly to the surface of the body and consequently the values of all the functions, except of the pressure, at the point $\xi = 0$ differ sharply from their values at adjoining points. Depending on the variations in the functions with coordinate x we note the phenomenon of flow reexpansion. It is most clearly seen in the examples for functions p and ρ .

Figure 13 shows the variation in the slope of the tangent to the shock wave F_x as a function of the coordinate x . Curves 1, 2, 4 correspond to variations shown in tables 1, 2, 4 and are obtained in the calculations which consider the equilibrium chemical reactions. We observe the unique behavior of F_x in the region where the shock wave interacts with the rarefaction wave

formed during the flow past a region with a sharp variation in curvature. The broken line in figure 13 shows the limiting values of F_x . Table 4 shows the results of the calculations for the flow around the body consisting of a bow

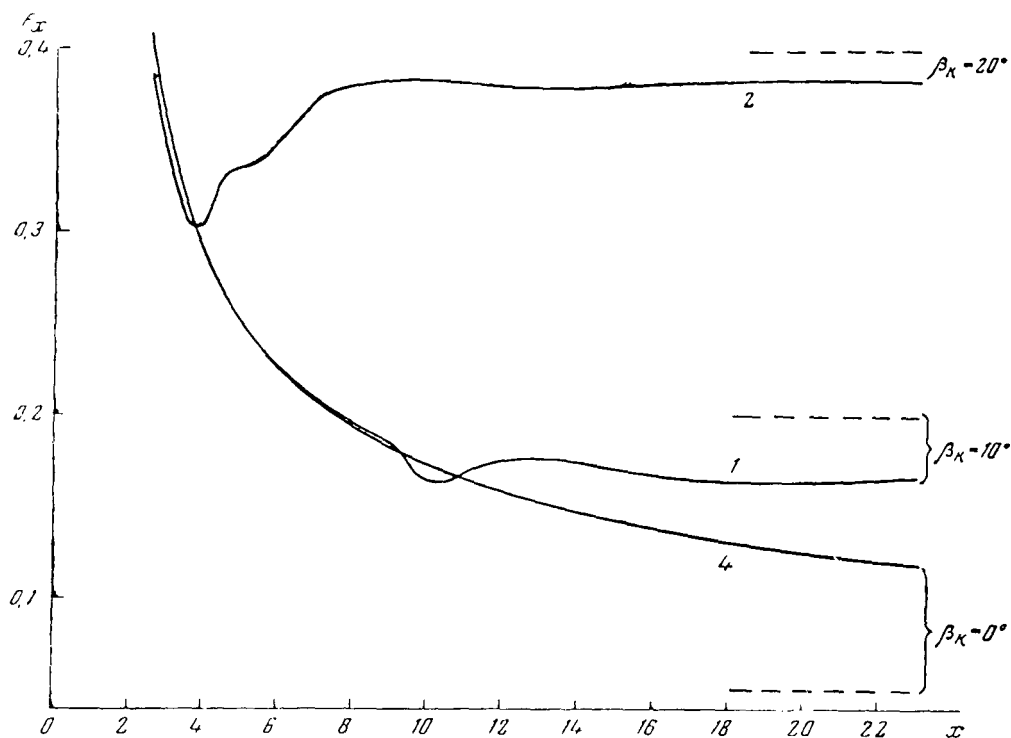


Figure 13. Variation in the slope of the shock wave as a function of coordinate x : broken line shows the limiting values; numbers at the curves coincide with the numeration of the tables for the respective variations.

cone with a half-angle of 40° connected to a cylinder. The calculations are carried out for $M_\infty = 20$ taking into account the equilibrium chemical reactions

and also neglecting them ($k = 1.4$). By comparing the results of the tables we can see that in the region with an intense expansion of the flow the most significant differences are observed in the density as well as in the pressure.

Figures 14-19 present some graphs for gasdynamic and thermodynamic functions obtained in calculating the three-dimensional flow around a body represented in figure 14. The calculations were carried out taking into account equilibrium chemical reactions with a Mach number of the unperturbed flow equal to $M_\infty = 20$ and angles of attack $\alpha = 0^\circ, 5^\circ, 10^\circ$. The graphs of figures 14-16

show the variation in the functions with the coordinate x . The vertical line on the axis of the abscissas designates the point where the generatrix of 65 the transient region is connected to the basic cone (the connecting point with the bow cone has a coordinate $x = 1$). The curves corresponding to the coordinate $\xi = 0$ are drawn with a solid line while the curves corresponding to the coordinate $\xi = 1$ are drawn by a broken line. A very large variation in all functions takes place in the region from $x = 1$ to $x = 2$ particularly on the surface of the body ($\xi = 0$). Directly behind the shock wave ($\xi = 1$) the variations are also quite substantial but more uniform. On the surface of the body when $x > 3$ the functions are almost independent of the coordinate x . Behind the shock wave this phenomenon is observed much farther along the flow when $x > 15$. An interesting feature associated with the behavior of the function v is the slight increase in its value on the shock wave when $x > 1$. We should also note the sharply defined maximum concentration of the nitrogen oxide in the region of the sharply expanded flow. In the plane $\vartheta = 0^\circ$ we observe a substantial re-expansion of the flow (fig. 15).

Figure 17 shows the functions p and w as they vary with the coordinate ϑ . Figures 18 and 19 show the variation in gasdynamic and thermodynamic functions depending on the value of the coordinate ξ for different values of x . These graphs clearly show the evolution of the entropy layer.

Tables 5 and 6 present some calculation results for three-dimensional flow around the body consisting of a bow cone with a half-angle of 46.9° and of a 68 cylinder. The connection point corresponds to the coordinate $x = 1.925$. The angle of attack of the body is $\alpha = 5^\circ$. The Mach number of the unperturbed flow is $M_\infty = 20$. The table presents data on the gasdynamic functions for nine values of the coordinate x , eleven values of the coordinate ξ and nine values of the coordinate ϑ . Table 6 presents the air composition, temperature and coordinate of the body surface $r = G$ for these same sections when $\xi = 0$. The number k represents the ratio of the enthalpy to the internal energy

$$k = \frac{h}{e} = \frac{hp}{hp - p}.$$

In table 6 the value k is given behind the shock wave in all cases ($\xi = 1$). In the case of a gas with constant specific heats $k = c_p/c_v$, we note that the

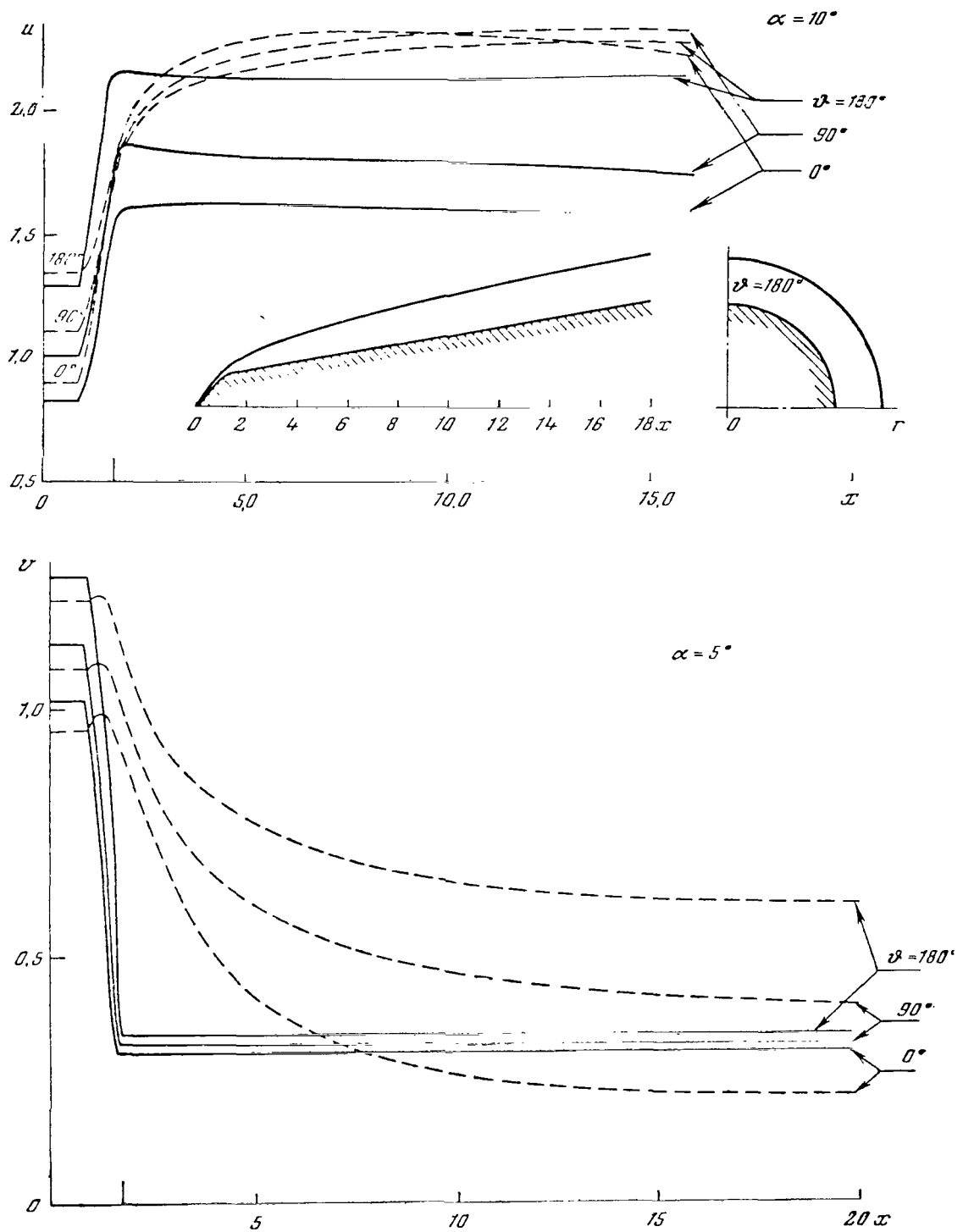


Figure 14. Variation in velocity components as a function of coordinate x : solid lines are for body surface; broken lines are for shock wave surface.

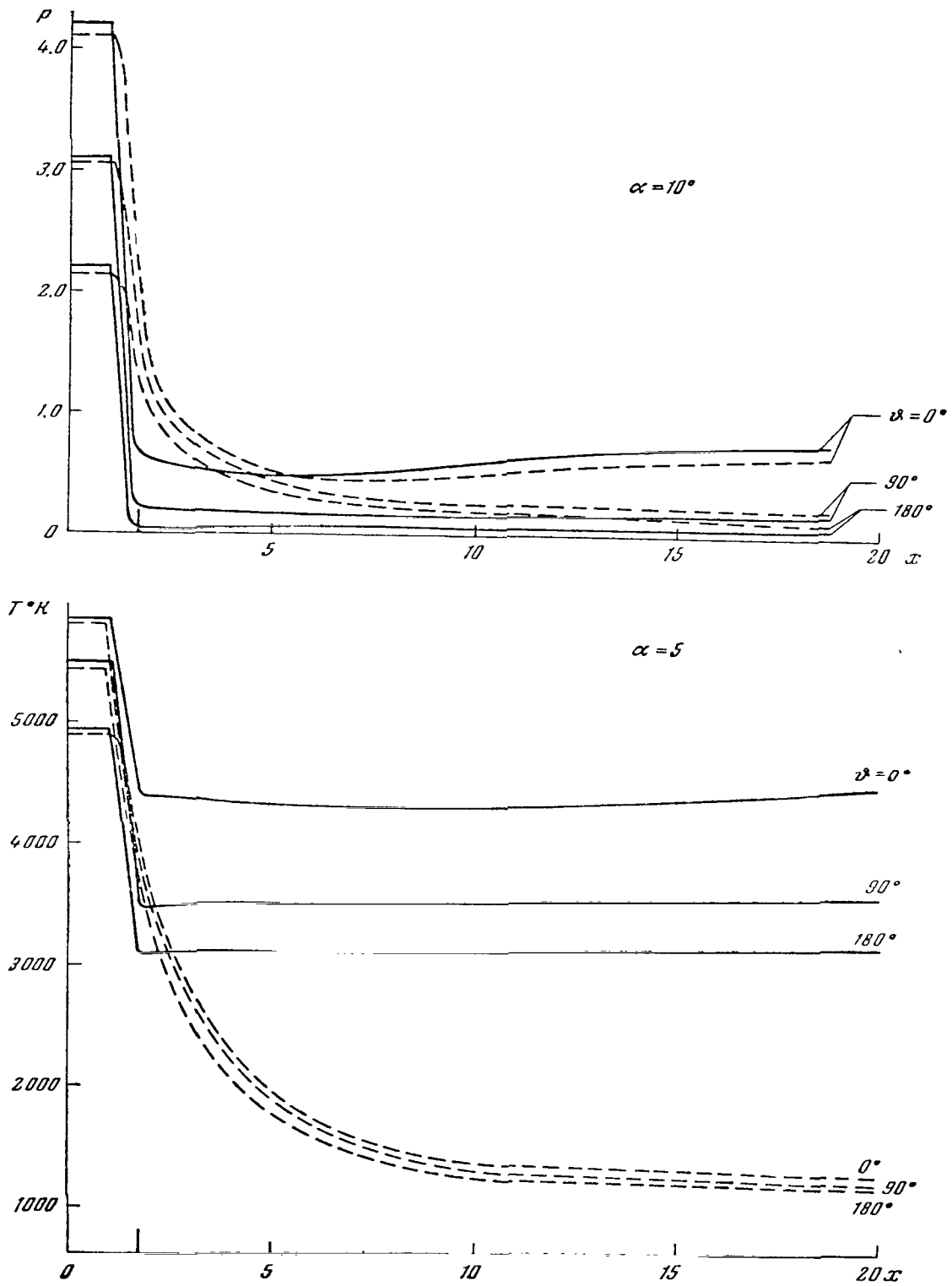


Figure 15. Variation in pressure and temperature as a function of coordinate x : solid lines are for the body surface; broken lines are for the shock wave surface.

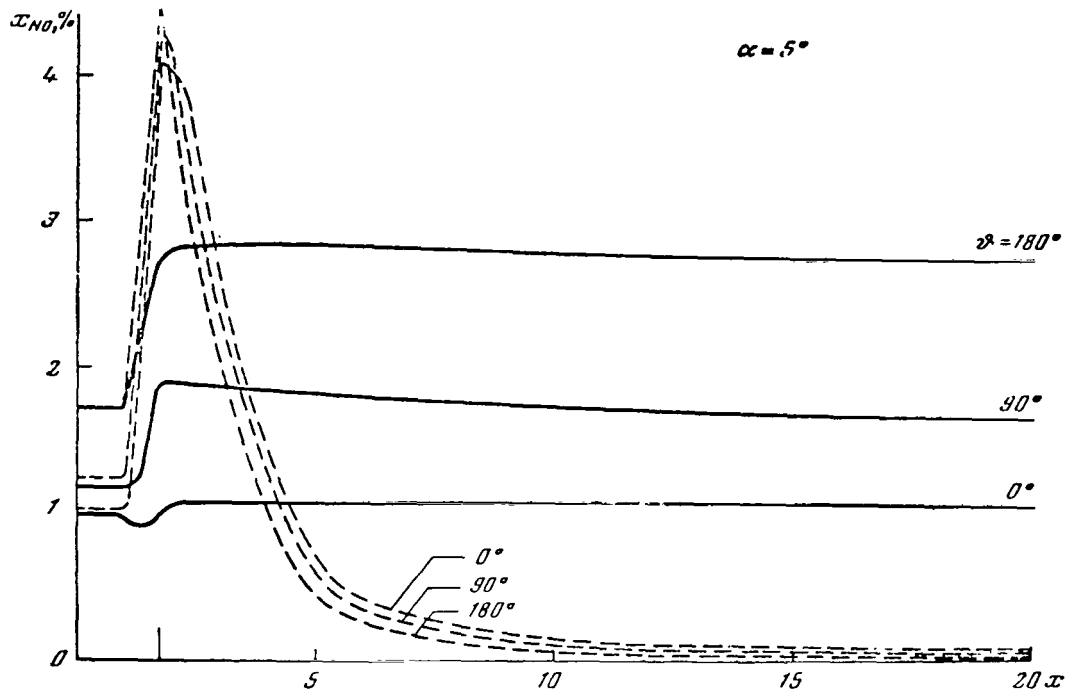


Figure 16. Variation in the concentration of nitrogen oxide as a function of coordinate x : solid lines are for the body surface; broken lines are for the shock wave surface.

quantity $k - 1$ changes by a factor of two. Therefore, the calculation of such flows with some constant "effective" k leads to substantial errors.

In conclusion we note that all calculations carried out in this section utilize the coordinates x , $\tilde{\xi}$, ϑ , where

$$\tilde{\xi} = \frac{r-G}{F-G} \left\{ \Phi(x, \vartheta) + [1 - \Phi(x, \vartheta)] \frac{r-G}{F-G} \right\},$$

$$0 < \Phi \leq 1.$$

The computed values of the functions before they were printed out were /86 interpolated over equidistant values $\tilde{\xi} = \frac{r-G}{F-G}$. All tables and graphs with the exception of table 5 present precisely these values of the functions. Table 5 shows the values of the functions from the computation points with equidistant values $\tilde{\xi}$. In the calculations it was found that in the given case $\Phi(x, \vartheta) \neq 1$ when $1.4 \leq x \leq 2.4$. The corresponding values of Φ are shown in

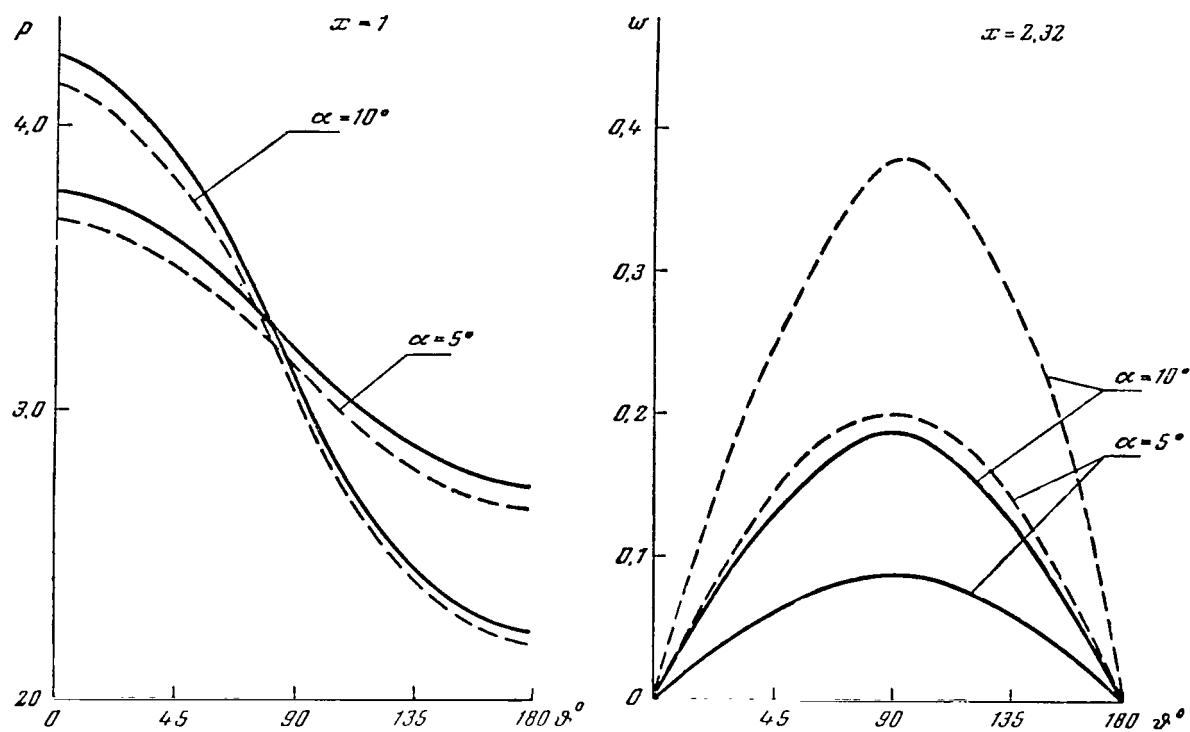


Figure 17. Variation in pressure and circumferential velocity component as a function of coordinate φ : solid line is for the body surface; broken line is for the shock wave surface.

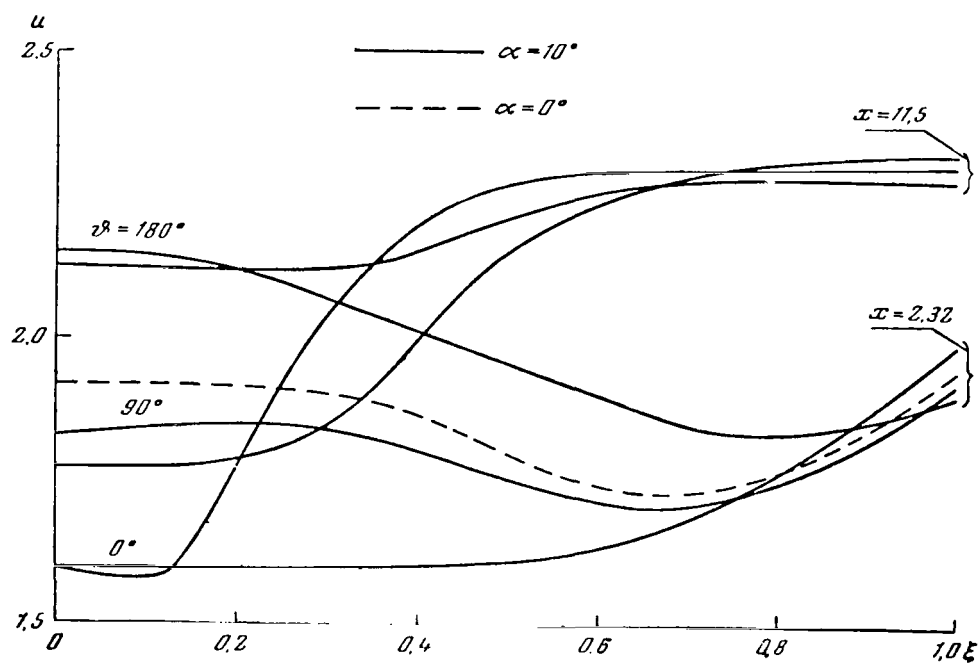


Figure 18. Variation in axial velocity component as a function of coordinate ξ .

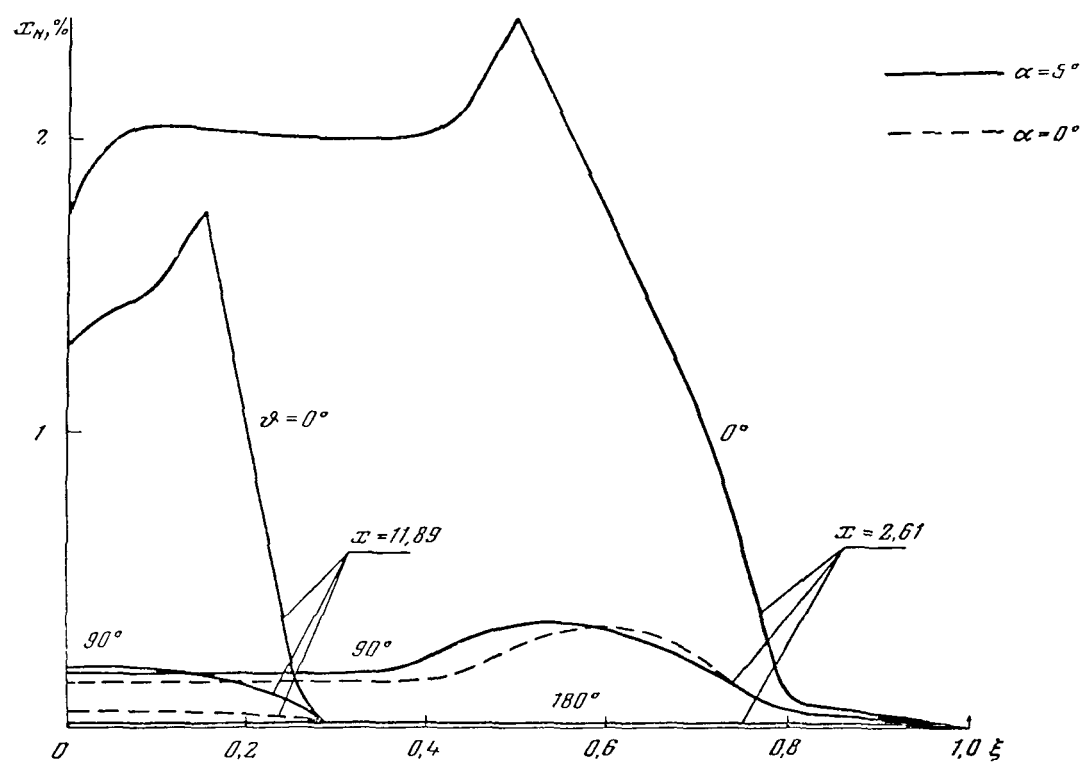
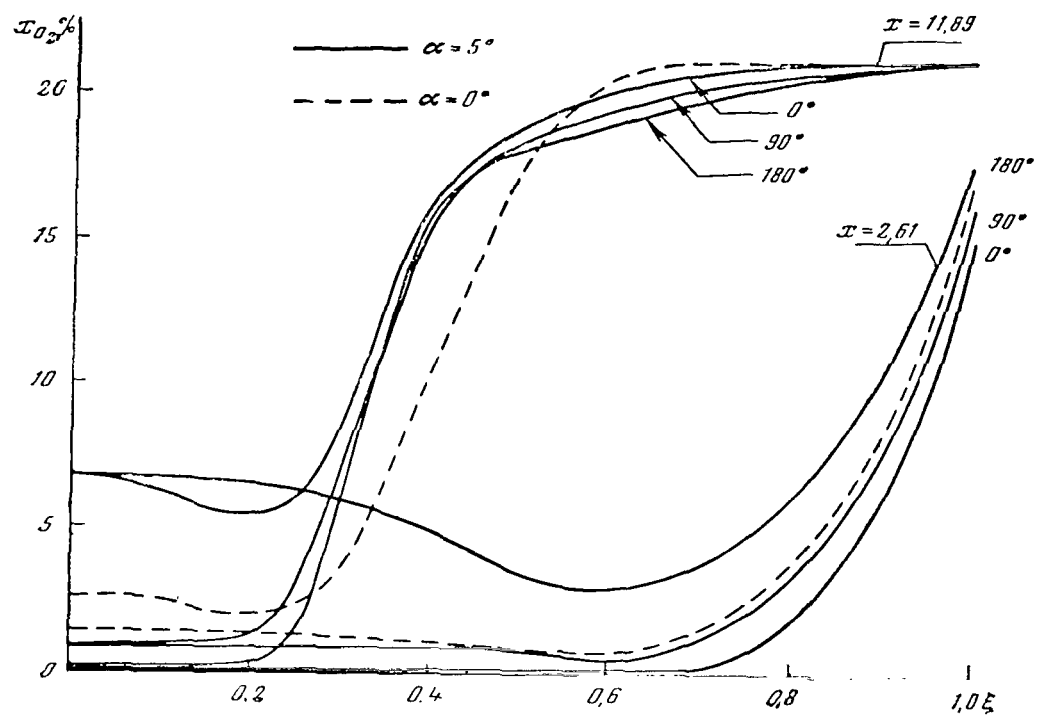


Figure 19. Variation in concentration of molecular oxygen and atomic nitrogen as a function of coordinate ξ .

TABLE 6

/84

x	Function	θ								
		0°	22°30'	45°	67°30'	90°	112°30'	135°	157°30'	180°
1.0	T	5838	5817	5761	5663	5526	5354	5162	5001	4937
	x_{O_2}	0.000	0.000	0.000	0.000	0.001	0.001	0.001	0.002	0.002
	x_O	0.315	0.316	0.317	0.319	0.322	0.324	0.325	0.325	0.325
	x_{N_2}	0.537	0.540	0.548	0.560	0.576	0.593	0.609	0.619	0.622
	x_N	0.130	0.126	0.117	0.102	0.082	0.061	0.042	0.030	0.026
	x_{NO}	0.010	0.010	0.010	0.011	0.011	0.013	0.015	0.016	0.017
	k	1.186	1.187	1.189	1.192	1.196	1.200	1.202	1.203	1.203
	G	1.069	1.069	1.069	1.069	1.069	1.069	1.069	1.069	1.069
1.2	T	5728	5707	5647	5541	5393	5207	4985	4814	4744
	x_{O_2}	0.000	0.000	0.000	0.000	0.001	0.001	0.001	0.002	0.002
	x_O	0.317	0.318	0.319	0.321	0.324	0.326	0.326	0.325	0.324
	x_{N_2}	0.547	0.549	0.557	0.569	0.585	0.602	0.617	0.626	0.629
	x_N	0.119	0.115	0.106	0.091	0.071	0.051	0.033	0.022	0.018
	x_{NO}	0.009	0.010	0.010	0.010	0.011	0.013	0.015	0.017	0.018
	k	1.188	1.189	1.191	1.194	1.198	1.201	1.203	1.203	1.204
	G	1.272	1.272	1.272	1.272	1.272	1.272	1.272	1.272	1.272
1.4	T	5391	5364	5287	5156	4965	4712	4421	4192	4111
	x_{O_2}	0.000	0.000	0.000	0.001	0.001	0.002	0.003	0.006	0.008
	x_O	0.323	0.324	0.325	0.327	0.328	0.329	0.325	0.318	0.315
	x_{N_2}	0.573	0.576	0.584	0.596	0.611	0.625	0.636	0.641	0.643
	x_N	0.086	0.082	0.073	0.058	0.040	0.023	0.011	0.005	0.004
	x_{NO}	0.009	0.009	0.010	0.010	0.012	0.014	0.017	0.021	0.022
	k	1.199	1.199	1.201	1.202	1.204	1.204	1.204	1.203	1.203
	G	1.432	1.432	1.432	1.432	1.432	1.432	1.432	1.432	1.432
1.6	T	4810	4772	4653	4446	4133	3772	3511	3366	3315
	x_{O_2}	0.001	0.001	0.001	0.001	0.003	0.010	0.023	0.037	0.042
	x_O	0.331	0.331	0.332	0.331	0.328	0.313	0.287	0.263	0.253
	x_{N_2}	0.612	0.615	0.622	0.631	0.639	0.647	0.656	0.664	0.668
	x_N	0.039	0.036	0.028	0.017	0.007	0.002	0.001	0.000	0.000
	x_{NO}	0.009	0.010	0.010	0.012	0.015	0.020	0.025	0.028	0.029
	k	1.204	1.204	1.204	1.203	1.203	1.204	1.205	1.207	1.208
	G	1.527	1.527	1.527	1.527	1.527	1.527	1.527	1.527	1.527
1.8	T	4130	4060	3889	3614	3353	3142	3014	2919	2867
	x_{O_2}	0.002	0.002	0.004	0.010	0.024	0.047	0.064	0.080	0.091
	x_O	0.332	0.331	0.327	0.314	0.288	0.249	0.219	0.192	0.175
	x_{N_2}	0.638	0.639	0.642	0.648	0.657	0.671	0.682	0.693	0.699
	x_N	0.009	0.007	0.004	0.001	0.000	0.000	0.000	0.000	0.000
	x_{NO}	0.012	0.012	0.014	0.018	0.022	0.025	0.026	0.026	0.026
	k	1.204	1.204	1.204	1.206	1.208	1.211	1.215	1.218	1.219
	G	1.560	1.560	1.560	1.560	1.560	1.560	1.560	1.560	1.560
2.0	T	3954	3901	3718	3488	3249	3065	2915	2814	2789
	x_{O_2}	0.003	0.004	0.006	0.014	0.031	0.053	0.077	0.096	0.100
	x_O	0.330	0.329	0.322	0.308	0.277	0.239	0.199	0.167	0.161
	x_{N_2}	0.641	0.642	0.645	0.650	0.661	0.675	0.691	0.703	0.706
	x_N	0.005	0.004	0.002	0.001	0.000	0.000	0.000	0.000	0.000
	x_{NO}	0.013	0.013	0.016	0.019	0.023	0.025	0.025	0.025	0.025
	k	1.211	1.212	1.213	1.216	1.220	1.224	1.229	1.232	1.234
	G	1.562	1.562	1.562	1.562	1.562	1.562	1.562	1.562	1.562

TABLE 6 (Concluded) /85

x	Function	θ								
		0°	22°30'	45°	67°30'	90°	112°30'	135°	157°30'	180°
2.4	T	3985	3928	3770	3529	3280	3073	2916	2815	2765
	x_{O_2}	0.003	0.003	0.005	0.012	0.028	0.052	0.078	0.097	0.107
	x_O	0.330	0.329	0.325	0.311	0.282	0.239	0.197	0.166	0.148
	x_{N_2}	0.640	0.641	0.644	0.649	0.659	0.675	0.691	0.704	0.710
	x_N	0.006	0.005	0.003	0.001	0.000	0.000	0.000	0.000	0.000
	x_{NO}	0.013	0.013	0.015	0.018	0.022	0.025	0.025	0.025	0.025
	k	1.237	1.237	1.240	1.243	1.248	1.253	1.259	1.262	1.265
	G	1.562	1.562	1.562	1.562	1.562	1.562	1.562	1.562	1.562
2.968	T	3917	—	3787	3533	3260	3081	2962	2865	2768
	x_{O_2}	0.004	0.004	0.005	0.012	0.031	0.052	0.069	0.086	0.109
	x_O	0.328	0.328	0.325	0.311	0.275	0.239	0.211	0.183	0.146
	x_{N_2}	0.642	0.642	0.644	0.649	0.661	0.675	0.686	0.697	0.711
	x_N	0.004	0.004	0.003	0.001	0.000	0.000	0.000	0.000	0.000
	x_{NO}	0.014	0.014	0.015	0.019	0.023	0.025	0.025	0.025	0.025
	k	1.273	1.275	1.276	1.280	1.284	1.289	1.294	1.298	1.301
	G	1.562	1.562	1.562	1.562	1.562	1.562	1.562	1.562	1.562
4.008	T	3931	3859	3726	3507	3282	3099	2972	2898	2841
	x_{O_2}	0.003	0.004	0.006	0.013	0.029	0.050	0.069	0.081	0.093
	x_O	0.330	0.328	0.323	0.309	0.280	0.243	0.211	0.192	0.172
	x_{N_2}	0.641	0.643	0.645	0.650	0.660	0.673	0.685	0.693	0.701
	x_N	0.005	0.004	0.002	0.001	0.000	0.000	0.000	0.000	0.000
	x_{NO}	0.013	0.014	0.015	0.019	0.023	0.025	0.025	0.025	0.025
	k	1.319	1.319	1.321	1.323	1.325	1.329	1.332	1.333	1.335
	G	1.562	1.562	1.562	1.562	1.562	1.562	1.562	1.562	1.562
7.448	T	3633	3598	3506	3473	3271	3147	3036	2929	2930
	x_{O_2}	0.007	0.008	0.012	0.012	0.027	0.041	0.059	0.081	0.080
	x_O	0.321	0.319	0.312	0.312	0.284	0.259	0.228	0.192	0.193
	x_{N_2}	0.646	0.647	0.649	0.650	0.659	0.668	0.679	0.693	0.692
	x_N	0.002	0.002	0.001	0.001	0.000	0.000	0.000	0.000	0.000
	x_{NO}	0.016	0.016	0.018	0.018	0.022	0.024	0.025	0.026	0.026
	k	1.361	1.361	1.362	1.363	1.364	1.365	1.366	1.367	1.368
	G	1.562	1.562	1.562	1.562	1.562	1.562	1.562	1.562	1.562

TABLE 7

 $\Phi(x, \theta)$

x	θ								
	0°	22°30'	45°	67°30'	90°	112°30'	135°	157°30'	180°
1.4	0.849	0.847	0.842	0.834	0.826	0.818	0.811	0.807	0.800
1.6	0.874	0.874	0.872	0.868	0.864	0.860	0.856	0.853	0.839
1.8	0.809	0.808	0.806	0.803	0.799	0.794	0.790	0.787	0.776
2.0	0.930	0.930	0.929	0.928	0.927	0.925	0.924	0.922	0.917
2.4	0.859	0.858	0.856	0.854	0.850	0.847	0.843	0.841	0.837

table 7. By using this table we can go from the coordinate $\tilde{\xi}$ to the coordinate ξ by means of the equation $\xi = \tilde{\xi}$ when $x < 1.4$ and $x > 2.4$ and by means of the equation

$$\xi = \sqrt{\Phi^2 + 4(1 - \Phi)\tilde{\xi}} + \Phi \quad \text{when } 1.4 \leq x \leq 2.4.$$

11. Remarks on the Kopal Tables

The Kopal tables consist of three volumes. The first volume presents the results for the axisymmetric flow around cones while the second and third present the corrections for the three-dimensional flow of first and second order, respectively. We should like to point out first that it is difficult to use these tables. Indeed, to find values of gasdynamic functions at some point in the flow it is necessary to select from the three volumes sixteen corresponding auxiliary coefficients and then carry out the calculations by using the Stone equations. Computation of an important characteristic of flow such as the position of the shock wave is associated with rather extensive calculations. Furthermore, it is not always possible to carry out these calculations at any point of the flow since the coefficients were not determined for the entire region of the flow. This, as we can easily see, is associated with the linearization according to the Stone method.

The corrections for the second approximation are presented for a narrow range of Mach numbers and half cone angles.

Furthermore, even for small angles of attack there is no basis to assume that the Kopal tables have sufficient accuracy since the Stone method does not take into account the singular behavior of the entropy function. Finally, there is a systematic error in the computation of the tables which has been pointed out in the work of A. Ferri (ref. 21).

Table 8 presents the doubled values of the Bernoulli integral $2I_0$ computed by means of the Kopal tables taking into account the second approximation

TABLE 8

Kopal table variation	θ	$2I_0$		
		$\varphi = 0^\circ$	$\varphi = 90^\circ$	$\varphi = 180^\circ$
$M_\infty = 3.0217$ $\beta_\infty = 15^\circ$ $\alpha = 10^\circ$	15°	—	6.1763	5.3909
	20°	—	6.0058	5.9890
	23.5°	—	5.9971	—
	25.163°	6.0117	5.9981	—
$M_\infty = 2.0665$ $\beta_\infty = 25^\circ$ $\alpha = 10^\circ$	30°	—	6.0242	5.9400
	38°	1810.6	6.0018	—
	41.644°	8010.6	5.9928	—

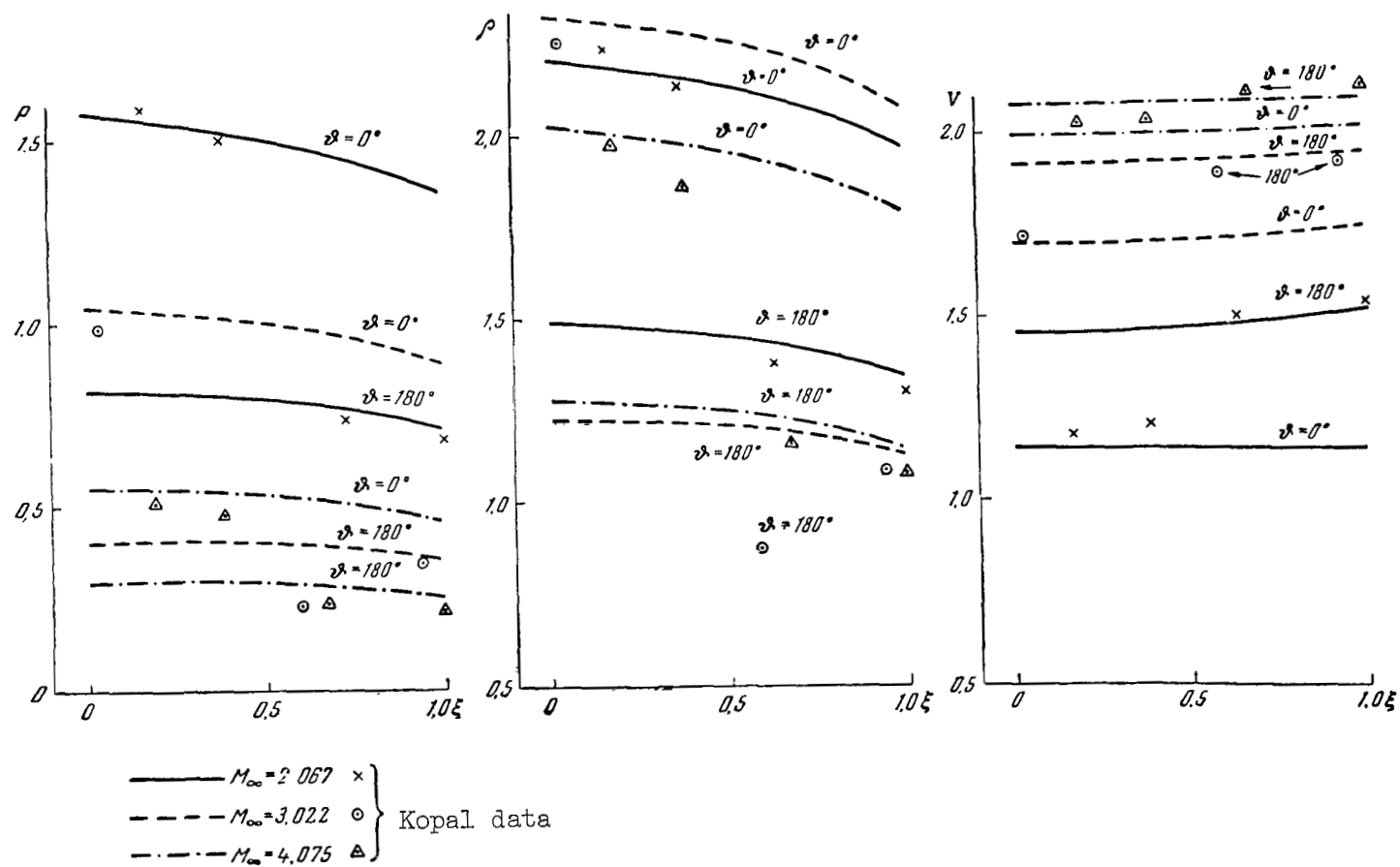


Figure 20

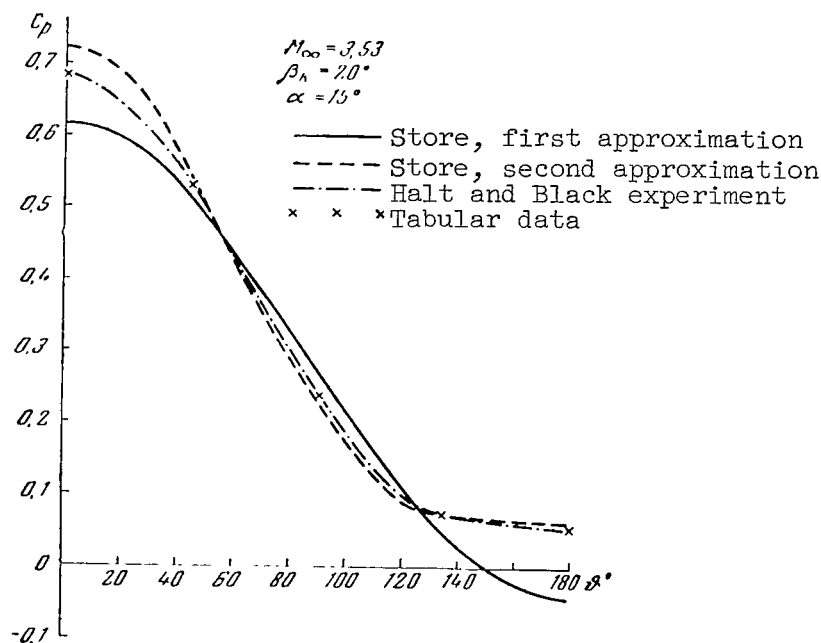


Figure 21

(the accurate value $2I_0$ for the assumed dimensionless functions is equal to 6).

The arguments in the table are the latitude and longitude of the flow spherical coordinate system with its origin at the apex of the cone.

Figure 20 compares the modulus of the velocity vector, pressure and density obtained by means of the Kopal tables with the results of our calculations. The Kopal results are designated by small circles for $M_{\infty} = 3.022$, $\beta_K = 15^{\circ}$, $\alpha = 10^{\circ}$, by crosses for $M_{\infty} = 2.067$, $\beta_K = 25^{\circ}$, $\alpha = 10^{\circ}$ and by triangles for $M_{\infty} = 4.075$, $\beta_K = 10^{\circ}$, $\alpha = 5^{\circ}$. Figure 21 shows the pressure coefficients obtained by the Stone method, by the method of the present book and those obtained experimentally (ref. 22). Unfortunately it is not possible to compare the remaining functions on the surface of the cone in the flow with the experimental data because such experimental data are absent.

CHAPTER III. DESCRIPTION OF TABLES FOR FLOW AROUND CIRCULAR CONES

12. Construction of Tables

The tables contain the field flow near circular cones in a supersonic /89
gasflow with a constant ratio of specific heats $k = 1.4$.

The flow fields are given in the cylindrical system of coordinates x, r, ϑ , where the x axis is directed along the axis of the cone, while the angle ϑ is measured from the plane of symmetry. The semiplane $\vartheta = 0$ is situated on the windward side (fig. 22). Due to self-similarity of the flow, all the gas-dynamic quantities are functions of only ξ and ϑ where

$$\xi = \frac{r - G(x, \vartheta)}{F(x, \vartheta) - G(x, \vartheta)}.$$

Here $G(x, \vartheta)$ and $F(x, \vartheta)$ are distances from the axis to the surface of the cone and to the shock wave. The tables present the values of the axial u , the radial

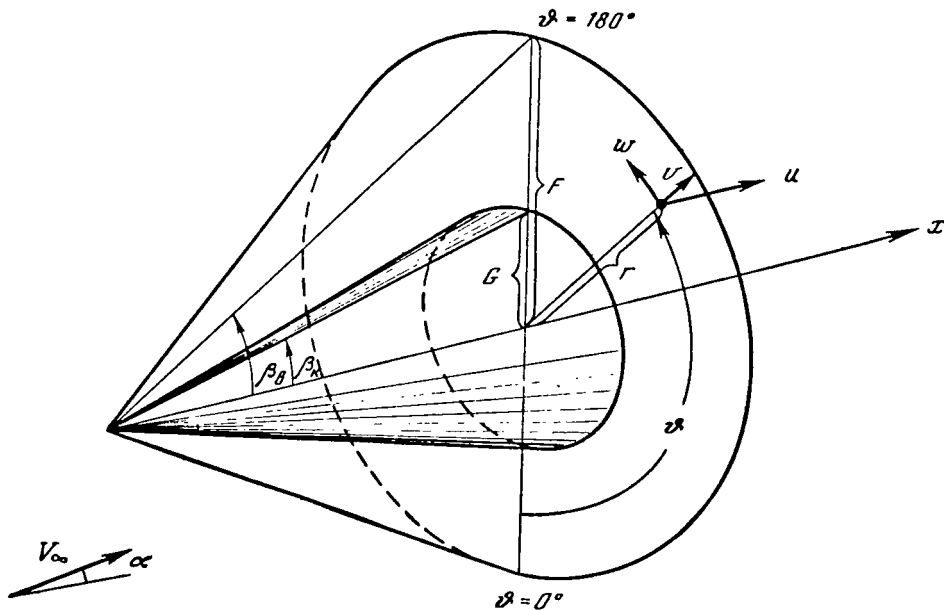


Figure 22

v and the circumferential w components of the velocity vector, pressure p and density ρ as functions of ξ and ϑ . Values of these functions are dimensionless and are referred to the following quantities: velocity components--to the critical velocity of sound c_{cr} , density--to the density of the unperturbed flow

ρ_∞ and the pressure to $\rho_\infty c_{cr}^2$. The parameters of the table are as follows: The

Mach number of the unperturbed flow M_∞ , the half cone angle β_K and the angle of attack α .

The tables consist of two parts and of two appendices. For convenience the first part contains the flow fields near circular cones for the case of axisymmetric flows ($\alpha = 0$). The second basic part of the tables contains the calculation results for flow around circular cones with various angles of attack. Appendix 1 contains the values of gasdynamic functions obtained by interpolating the results of the second part. Appendix 2 presents the values of aerodynamic coefficients computed for all variations contained in the tables.

Tables of the first part are presented for Mach numbers M_∞ equal to 2, 3, 4, 5, 6, 7 and angles β_K from 5° to 50° in steps of 5° . The heading on each page shows the Mach number M_∞ , while values of β_K are shown in the first upper line of the table. Values of the coordinate ξ are presented in the vertical column on the left. For a given β_K four numbers correspond to each value of ξ :

u , v , p , ρ , situated from the top down in the indicated order. The tables also give the value of F_x equal to the slope of the shock wave with respect to the axis of the cone.

The second part of the tables presents variations for Mach numbers M_∞ equal to 2, 3, 5, 7. The angles β_K vary in the tables from 10° to 40° in steps of

5° , while the angles of attack α vary from 5° to 20° in steps of 5° . /90

Appendix 1 contains tables for Mach numbers equal to 4 and 6 obtained by quadratic interpolation. The heading of each page in the second part of the tables and in Appendix 1 show the values M_∞ , β_K , α . The values of the angle ϑ from 0°

to 180° in steps of $11^\circ 15'$ are shown in the tables along the horizontal direction while the values of ξ from 0 to 1 in steps of 0.05 are shown along the vertical direction. For each pair (ξ, ϑ) there are five corresponding numbers: u , v , w , p , ρ , situated from the top down in the indicated order. At the singular point $\xi = 0$, $\vartheta = 180^\circ$, two values of each function are presented corresponding to the limiting transitions $\xi \rightarrow 0$, $\vartheta = 180^\circ$ and $\xi = 0$, $\vartheta \rightarrow 180^\circ$. The right group of numbers refers to the limiting transition over ϑ . For each value of

ϑ in the tables there is a value $F_x = \frac{\partial F(x, \vartheta)}{\partial x}$, equal to the tangent of the angle between the x axis and the generatrix of the shock wave in the given meridian plane.

Appendix 2 presents the values of aerodynamic coefficient c_0 , c_N and c_m in a system of coordinates fixed with respect to the cone

$$\begin{aligned} c_0 &= \frac{1}{\pi} \int_0^\pi \bar{p} d\vartheta, \\ c_N &= \frac{\operatorname{ctg} \beta_\kappa}{\pi} \int_0^\pi \bar{p} \cos \vartheta d\vartheta, \\ c_m &= -\frac{2}{3} c_N. \end{aligned}$$

The moment coefficient c_m is computed relative to the apex of the cone. The coefficients c_x , c_y in the flow system of coordinates are determined by /91 conventional equations of transition and $K = c_y/c_x$. Values of aerodynamic coefficients are referred to the product of the area of the cones' base and the velocity head $\pi G^2 q$. The moment coefficient is referred to the product $\pi G^2 x q$ where x is the height of the cone.

In conclusion we present some equations useful in the practical calculations when the present tables are utilized.

Let p_T , ρ_T be the tabulated values. The ratio of the pressure to the pressure of the unperturbed flow is expressed by the well-known equation

$$\frac{p}{p_\infty} = k \left(\frac{2}{k+1} + \frac{k-1}{k+1} M_\infty^2 \right) p_T.$$

The ratio of temperatures is given by the equation

$$\frac{T}{T_\infty} = k \left(\frac{2}{k+1} + \frac{k-1}{k+1} M_\infty^2 \right) \frac{p_T}{\rho_T}.$$

For assigned values x , ξ , ϑ , the distance from the cone axis is determined by the equation

$$r = [\operatorname{tg} \beta_\kappa + \xi (F_x - \operatorname{tg} \beta_\kappa)] x.$$

13. Accuracy of the Tables

The tables are computed by the direct method described in Section 7. Constant ϵ in inequality (7.2), which determines the accuracy of the solution of the self-similar difference equations, was varied over a wide range from 10^{-3} to 10^{-6} . It was shown that the optimum value of the constant is equal to 10^{-5} , and all tables were computed with this value. With the accepted setting of the initial functions, the value $\epsilon = 10^{-5}$ provided for the relative accuracy in the solution of the difference equations which was of the order of several thousands of one percent. The constant n_0 in the inequality (7.2) was chosen equal to 50.

Accuracy of the solution of the differential equations was controlled by various methods. In each version shown in the tables the realization of the Bernoulli integral was checked at 24 nodes of the mesh. The system used in the calculations is not divergent and the Bernoulli integral is not an algebraic result of the difference equations. Therefore the accuracy of realizing the Bernoulli integral characterizes the accuracy of the solution of the differential equations. In most variations the Bernoulli integral at the nodes, which did not adjoin a singularity point, was satisfied with an accuracy of 10^{-3} percent. At nodes adjoining a singularity, the accuracy of realizing the Bernoulli integral drops and in 54 variations the error is 10^{-2} percent.¹ In nine variations it does not exceed $7 \cdot 10^{-2}$ percent. In the variations: $M_\infty = 2$, $\beta_K = 15^\circ$, $\alpha = 10^\circ$; $M_\infty = 3$, $\beta_K = 25^\circ$, $\alpha = 20^\circ$; $M_\infty = 5$, $\beta_K = 25^\circ$, $\alpha = 20^\circ$, the error reaches 1 percent and extends to nodes farther away from the singularity.

More than 30 percent of the computed versions were selectively checked /92 to assure that they satisfy the law of mass conservation. For this purpose the gasflow rate between the shock wave and the cone through a plane perpendicular to the axis of the cone was compared with the gasflow rate in the unperturbed flow. The difference between these two flow rates in most checked versions was a few hundredths of 1 percent. In certain variations the difference is greater but never exceeds 0.1 percent. The constant value of entropy on the body is maintained with high accuracy.

In addition to these integral checks, checks were also made for several versions to see that the numeric solution satisfies the differential equations. On the average the equations are satisfied within the third decimal place, which is in complete agreement with errors obtained in integral checks.

¹The latter remark also refers to the seven variations of Appendix 1 specially designated below.

Control of accuracy for the numerical solution was achieved by comparing calculations with different numbers of the mesh points. As examples, tables 9 and 10 show the results of calculation with different numbers of points along the coordinate ξ . The difference between the functions obtained when $\Delta\xi = 1/20$ and $\Delta\xi = 1/30$ constitute several units of the fifth decimal place.

All checks made indicate that accuracy of the obtained solution is high in all variations. We consider that at the points of the mesh which differ from the singular point and from those adjoining it, all functions are determined with an accuracy to within the fourth or fifth decimal place. At the singular point and at the adjoining points, the accuracy in determining all functions except pressure drops to three decimal places while in the versions specifically designated above it drops even more.

This result appears remarkable to us if we bear in mind that the difference equations were standard and the steps were of constant value up to the singular point, while the provision for the asymptotic nature at the singularity point was carried out in the most primitive manner. The high quality of the calculations in the neighborhood of the singularity point is illustrated by the behavior of the entropy level line (see fig. 2).

In preparing the table for publication, data obtained were rounded off but smoothing of functions over differences was not performed.

Variations presented in Appendix 1 were obtained by interpolating over the Mach number M_∞ and are less accurate. This remark concerning the accuracy does not pertain to the seven variations obtained by calculation and presented in Appendix 1 so as not to disrupt the order of the basic tables ($M_\infty = 4$, $\beta_K = 35^\circ$, $\alpha = 5^\circ, 10^\circ, 15^\circ$; $M_\infty = 4$, $\beta_K = 40^\circ$, $\alpha = 20^\circ 30'$; $M_\infty = 6$, $\beta_K = 40^\circ$, $\alpha = 5^\circ, 10^\circ$; $M_\infty = 6$, $\beta_K = 45^\circ$, $\alpha = 20^\circ 30'$).

In the practical utilization of the tables it is permissible to interpolate all parameters and coordinates.

TABLE 9

$$M_{\infty} = 3.5, \beta_{\kappa} = 20^{\circ}, \alpha = 4^{\circ}$$

θ	ξ	u		v		w		p		ρ	
		$\Delta\xi = \frac{1}{20}$	$\Delta\xi = \frac{1}{30}$	$\Delta\xi = \frac{1}{20}$	$\Delta\xi = \frac{1}{30}$	$\Delta\xi = \frac{1}{20}$	$\Delta\xi = \frac{1}{30}$	$\Delta\xi = \frac{1}{20}$	$\Delta\xi = \frac{1}{30}$	$\Delta\xi = \frac{1}{20}$	$\Delta\xi = \frac{1}{30}$
0°	0.0	1.68714	1.68715	0.61408	0.61408	0.00000	0.00000	1.03288	1.03286	2.60408	2.60406
	0.5	1.73216	1.73216	0.50134	0.50133	0.00000	0.00000	0.99666	0.99666	2.53854	2.53853
	1.0	1.77766	1.77766	0.40556	0.40555	0.00000	0.00000	0.90723	0.90722	2.37366	2.37365
90°	0.0	1.72724	1.72727	0.62867	0.62868	0.13031	0.12999	0.82571	0.82570	2.21928	2.21927
	0.5	1.78201	1.78201	0.53100	0.53100	0.13331	0.13332	0.80299	0.80299	2.22664	2.22663
	1.0	1.82379	1.82379	0.44568	0.44567	0.12947	0.12947	0.73520	0.73520	2.09339	2.09339
180°	0.0	1.79684	1.79684	0.65400	0.65401	0.00000	0.00000	0.66455	0.66452	1.98485	1.98480
	0.5	1.83477	1.83478	0.56084	0.56083	0.00000	0.00000	0.64046	0.64044	1.93318	1.93314
	1.0	1.87577	1.87579	0.47917	0.47917	0.00000	0.00000	0.57781	0.57778	1.79614	1.79609

TABLE 10

$$M_{\infty} = 5, \beta_{\kappa} = 20^{\circ}, \alpha = 10^{\circ}$$

θ	ξ	u			v			w			p			ρ		
		$\Delta\xi = \frac{1}{10}$	$\Delta\xi = \frac{1}{20}$	$\Delta\xi = \frac{1}{30}$	$\Delta\xi = \frac{1}{10}$	$\Delta\xi = \frac{1}{20}$	$\Delta\xi = \frac{1}{30}$	$\Delta\xi = \frac{1}{10}$	$\Delta\xi = \frac{1}{20}$	$\Delta\xi = \frac{1}{30}$	$\Delta\xi = \frac{1}{10}$	$\Delta\xi = \frac{1}{20}$	$\Delta\xi = \frac{1}{30}$	$\Delta\xi = \frac{1}{10}$	$\Delta\xi = \frac{1}{20}$	$\Delta\xi = \frac{1}{30}$
0°	0.0	1.74322	1.74323	1.74323	0.63448	0.63448	0.63448	0	0	0	1.44519	1.44516	1.44516	3.95384	3.95381	3.95381
	0.5	1.77933	1.77934	1.77934	0.54113	0.54113	0.54113	0	0	0	1.41100	1.41098	1.41098	3.88680	3.88678	3.88678
	1.0	1.81726	1.81728	1.81728	0.45368	0.45367	0.45367	0	0	0	1.31723	1.31719	1.31719	3.70050	3.70045	3.70044
90°	0.0	1.83086	1.83104	1.83108	0.66638	0.66645	0.66646	0.29578	0.29451	0.29423	0.74387	0.74388	0.74389	2.46035	2.46041	2.46043
	0.5	1.90572	1.90568	1.90567	0.61899	0.61904	0.61905	0.33943	0.33938	0.33937	0.76154	0.76159	0.76160	2.85108	2.85109	2.85110
	1.0	1.92885	1.92883	1.92883	0.57139	0.57142	0.57142	0.35775	0.35774	0.35773	0.75643	0.75648	0.75649	2.90128	2.90137	2.90140
180°	0.0	2.03168	2.03172	2.03173	0.73947	0.73948	0.73949	0	0	0	0.36224	0.36209	0.36204	1.91305	1.91250	1.91236
	0.5	2.05171	2.05181	2.05184	0.68906	0.68889	0.68885	0	0	0	0.35295	0.35280	0.35276	1.87782	1.87731	1.87716
	1.0	2.07505	2.07514	2.07516	0.63958	0.63945	0.63941	0	0	0	0.32505	0.32490	0.32487	1.77056	1.77005	1.76991

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Tables of
Axisymmetric Flow Around Cones

$$M_{\infty} = 2$$

ξ	β_{κ}									
	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0.00		1.5299 0.2697 0.6157 1.2014	1.4356 0.3847 0.7460 1.3773	1.3213 0.4809 0.9103 1.5841	1.1886 0.5549 1.1073 1.8109	1.0374 0.5989 1.3364 2.0491	0.8647 0.6055 1.6020 2.2953			
0.05		1.5350 0.2412 0.6146 1.2000	1.4426 0.3595 0.7450 1.3760	1.3298 0.4583 0.9094 1.5829	1.1986 0.5333 1.1063 1.8098	1.0491 0.5791 1.3352 2.0478	0.8788 0.5860 1.6006 2.2939			
0.10		1.5398 0.2182 0.6121 1.1965	1.4491 0.3376 0.7425 1.3727	1.3379 0.4379 0.9069 1.5798	1.2080 0.5143 1.1036 1.8067	1.0602 0.5611 1.3323 2.0446	0.8920 0.5684 1.5970 2.2902			
0.15		1.5442 0.1991 0.6088 1.1918	1.4552 0.3183 0.7389 1.3680	1.3455 0.4195 0.9031 1.5751	1.2172 0.4969 1.0996 1.8020	1.0708 0.5446 1.3278 2.0397	0.9045 0.5525 1.5916 2.2846			
0.20		1.5483 0.1829 0.6050 1.1864	1.4611 0.3010 0.7346 1.3623	1.3529 0.4026 0.8984 1.5692	1.2259 0.4809 1.0945 1.7960	1.0810 0.5294 1.3221 2.0335	0.9184 0.5381 1.5849 2.2778			
0.25		1.5521 0.1683 0.6003 1.1807	1.4667 0.2854 0.7215 1.3557	1.3600 0.3871 0.8930 1.5624	1.2344 0.4660 1.0885 1.7889	1.0908 0.5153 1.3154 2.0261	0.9278 0.5249 1.5770 2.2696			
0.30		1.5558 0.1565 0.5966 1.1746	1.4721 0.2711 0.7243 1.3486	1.3669 0.3727 0.8869 1.5548	1.2426 0.4521 1.0817 1.7810	1.1003 0.5022 1.3078 2.0177	0.9387 0.5127 1.5682 2.2606			
0.35		1.5593 0.1455 0.5921 1.1684	1.4774 0.2580 0.7185 1.3410	1.3736 0.3592 0.8803 1.5465	1.2506 0.4390 1.0744 1.7723	1.1096 0.4899 1.2995 2.0086	0.9492 0.5015 1.5588 2.2509			
0.40		1.5626 0.1356 0.5877 1.1621	1.4825 0.2458 0.7125 1.3329	1.3801 0.3465 0.8732 1.5377	1.2584 0.4267 1.0664 1.7630	1.1186 0.4784 1.2906 1.9988	0.9593 0.4910 1.5487 2.2405			
0.45		1.5659 0.1265 0.5831 1.1557	1.4875 0.2343 0.7062 1.3245	1.3866 0.3345 0.8658 1.5283	1.2661 0.4150 1.0580 1.7530	1.1274 0.4674 1.2812 1.9884	0.9691 0.4812 1.5382 2.2296			
0.50		1.5691 0.1181 0.5785 1.1492	1.4925 0.2235 0.6997 1.3158	1.3930 0.3231 0.8580 1.5184	1.2737 0.4039 1.0491 1.7425	1.1360 0.4571 1.2714 1.9776	0.9787 0.4720 1.5272 2.2183			

$$M_{\infty} = 2$$

ξ	β_k									
	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0.55		1.5722 0.1103 0.5739 1.1426	1.4974 0.2133 0.6930 1.3067	1.3993 0.3121 0.8498 1.5081	1.2812 0.3932 1.0399 1.7315	1.1445 0.4472 1.2611 1.9660	0.9880 0.4634 1.5160 2.2066			
0.60		1.5754 0.1029 0.5691 1.1358	1.5024 0.2034 0.6860 1.2973	1.4057 0.3016 0.8413 1.4973	1.2886 0.3829 1.0303 1.7200	1.1528 0.4377 1.2505 1.9542	0.9971 0.4552 1.5043 2.1945			
0.65		1.5785 0.0958 0.5643 1.1289	1.5073 0.1939 0.6788 1.2876	1.4120 0.2913 0.8325 1.4861	1.2961 0.3730 1.0202 1.7080	1.1611 0.4286 1.2395 1.9419	1.0060 0.4474 1.4925 2.1821			
0.70		1.5817 0.0889 0.5593 1.1218	1.5124 0.1845 0.6713 1.2774	1.4185 0.2813 0.8233 1.4743	1.3035 0.3633 1.0098 1.6955	1.1694 0.4198 1.2281 1.9291	1.0148 0.4400 1.4803 2.1694			
0.75		1.5850 0.0822 0.5541 1.1143	1.5176 0.1753 0.6634 1.2667	1.4250 0.2715 0.8136 1.4620	1.3110 0.3538 0.9989 1.6825	1.1776 0.4113 1.2163 1.9158	1.0235 0.4328 1.4679 2.1564			
0.80		1.5885 0.0754 0.5486 1.1064	1.5229 0.1661 0.6551 1.2553	1.4317 0.2617 0.8035 1.4490	1.3187 0.3445 0.9876 1.6688	1.1859 0.4030 1.2041 1.9021	1.0321 0.4260 1.4552 2.1431			
0.85		1.5922 0.0684 0.5426 1.0978	1.5286 0.1567 0.6462 1.2432	1.4386 0.2518 0.7928 1.4352	1.3264 0.3352 0.9757 1.6545	1.1942 0.3949 1.1915 1.8878	1.0406 0.4194 1.4424 2.1295			
0.90		1.5963 0.0610 0.5360 1.0881	1.5347 0.1469 0.6365 1.2298	1.4459 0.2418 0.7814 1.4204	1.3344 0.3259 0.9632 1.6393	1.2026 0.3869 1.1784 1.8730	1.0490 0.4131 1.4293 2.1157			
0.95		1.6013 0.0524 0.5280 1.0765	1.5414 0.1363 0.6256 1.2147	1.4536 0.2314 0.7691 1.4043	1.3427 0.3166 0.9501 1.6233	1.2111 0.3789 1.1649 1.8577	1.0574 0.4069 1.4160 2.1017			
1.00		1.6083 0.0406 0.5165 1.0598	1.5495 0.1242 0.6126 1.1966	1.4620 0.2204 0.7554 1.3864	1.3513 0.3070 0.9362 1.6063	1.2198 0.3710 1.1509 1.8417	1.0657 0.4009 1.4026 2.0874			
F_x		0.6077	0.6724	0.7756	0.91737	1.1137	1.4149			

$$M_{\infty} = 3$$

ξ	β_{κ}									
	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0.00	1.9302 0.1689 0.3607 1.1243	1.8607 0.3281 0.4749 1.3678	1.7656 0.4731 0.6401 1.6851	1.6468 0.5994 0.8544 2.0422	1.5056 0.7021 1.1145 2.4076	1.3439 0.7759 1.4151 2.7580	1.1640 0.8154 1.7507 3.0802	0.9696 0.8136 2.1170 3.3696	0.7558 0.7558 2.5202 3.6318	
0.05	1.9324 0.1462 0.3601 1.1229	1.8641 0.3092 0.4744 1.3668	1.7700 0.4569 0.6396 1.6842	1.6522 0.5850 0.8539 2.0413	1.5118 0.6888 1.1140 2.4068	1.3513 0.7634 1.4146 2.7571	1.1732 0.8034 1.7500 3.0793	0.9797 0.8017 2.1162 3.3686	0.7682 0.7436 2.5191 3.6307	
0.10	1.9342 0.1289 0.3587 1.1199	1.8673 0.2924 0.4730 1.3640	1.7743 0.4419 0.6382 1.6817	1.6574 0.5713 0.8525 2.0389	1.5179 0.6761 1.1125 2.4045	1.3584 0.7514 1.4129 2.7549	1.1815 0.7919 1.7481 3.0769	0.9895 0.7905 2.1138 3.3660	0.7801 0.7323 2.5160 3.6275	
0.15	1.9359 0.1150 0.3569 1.1159	1.8704 0.2773 0.4710 1.3599	1.7784 0.4278 0.6362 1.6779	1.6624 0.5583 0.8503 2.0353	1.5240 0.6640 1.1101 2.4008	1.3654 0.7399 1.4102 2.7511	1.1896 0.7809 1.7450 3.0730	0.9990 0.7799 2.1102 3.3618	0.7914 0.7219 2.5112 3.6226	
0.20	1.9375 0.1036 0.3550 1.1116	1.8734 0.2635 0.4685 1.3548	1.7825 0.4145 0.6335 1.6728	1.6674 0.5459 0.8475 2.0304	1.5298 0.6523 1.1069 2.3959	1.3723 0.7289 1.4067 2.7462	1.1976 0.7704 1.7409 3.0679	1.0082 0.7698 2.1053 3.3563	0.8023 0.7121 2.5051 3.6163	
0.25	1.9389 0.0939 0.3530 1.1071	1.8763 0.2508 0.4657 1.3488	1.7864 0.4019 0.6303 1.6668	1.6722 0.5340 0.8440 2.0244	1.5356 0.6411 1.1031 2.3899	1.3790 0.7183 1.4023 2.7401	1.2054 0.7603 1.7359 3.0616	1.0172 0.7602 2.0994 3.3496	0.8128 0.7030 2.4978 3.6088	
0.30	1.9402 0.0857 0.3509 1.1024	1.8791 0.2390 0.4625 1.3422	1.7903 0.3899 0.6267 1.6599	1.6770 0.5226 0.8400 2.0175	1.5413 0.6302 1.0985 2.3829	1.3857 0.7080 1.3972 2.7330	1.2130 0.7506 1.7301 3.0542	1.0259 0.7511 2.0926 3.3418	0.8229 0.6945 2.4895 3.6002	
0.35	1.9415 0.0784 0.3488 1.0978	1.8818 0.2280 0.4590 1.3351	1.7941 0.3785 0.6226 1.6522	1.6818 0.5116 0.8354 2.0096	1.5470 0.6198 1.0934 2.3750	1.3922 0.6981 1.3914 2.7249	1.2205 0.7413 1.7235 3.0459	1.0345 0.7423 2.0850 3.3331	0.8327 0.6865 2.4803 3.5907	
0.40	1.9427 0.0720 0.3468 1.0931	1.8845 0.2177 0.4554 1.3275	1.7979 0.3675 0.6182 1.6438	1.6865 0.5009 0.8303 2.0009	1.5526 0.6096 1.0877 2.3661	1.3987 0.6885 1.3850 2.7159	1.2279 0.7323 1.7162 3.0367	1.0429 0.7340 2.0766 3.3235	0.8422 0.6789 2.4704 3.5804	
0.45	1.9439 0.0662 0.3447 1.0885	1.8872 0.2078 0.4515 1.3194	1.8017 0.3569 0.6134 1.6346	1.6912 0.4905 0.8248 1.9914	1.5581 0.5997 1.0815 2.3565	1.4051 0.6792 1.3780 2.7061	1.2352 0.7235 1.7082 3.0266	1.0511 0.7259 2.0675 3.3131	0.8514 0.6719 2.4598 3.5695	
0.50	1.9451 0.0610 0.3427 1.0839	1.8898 0.1985 0.4475 1.3109	1.8054 0.3466 0.6082 1.6248	1.6959 0.4803 0.8188 1.9811	1.5636 0.5901 1.0748 2.3460	1.4114 0.6701 1.3704 2.6954	1.2424 0.7151 1.6997 3.0158	1.0592 0.7182 2.0578 3.3020	0.8603 0.6650 2.4487 3.5579	

$$M_{\infty} = 3$$

ξ	β_{κ}									
	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0.55	1.9462 0.0561 0.3406 1.0792	1.8924 0.1894 0.4432 1.3020	1.8092 0.3365 0.6028 1.6144	1.7006 0.4704 0.8125 1.9701	1.5691 0.5806 1.0676 2.3347	1.4177 0.6612 1.3622 2.6839	1.2495 0.7068 1.6905 3.0042	1.0671 0.7107 2.0475 3.2902	0.8690 0.6586 2.4370 3.5458	
0.60	1.9473 0.0515 0.3385 1.0745	1.8951 0.1807 0.4388 1.2927	1.8130 0.3267 0.5970 1.6033	1.7052 0.4607 0.8057 1.9584	1.5746 0.5713 1.0598 2.3227	1.4241 0.6525 1.3536 2.6717	1.2566 0.6988 1.6808 2.9918	1.0750 0.7035 2.0367 3.2777	0.8775 0.6525 2.4251 3.5334	
0.65	1.9484 0.0471 0.3364 1.0697	1.8978 0.1721 0.4342 1.2829	1.8168 0.3169 0.5908 1.5915	1.7100 0.4511 0.7985 1.9459	1.5802 0.5622 1.0516 2.3098	1.4304 0.6439 1.3443 2.6587	1.2637 0.6909 1.6705 2.9788	1.0827 0.6965 2.0253 3.2647	0.8858 0.6466 2.4126 3.5204	
0.70	1.9496 0.0430 0.3342 1.0647	1.9006 0.1637 0.4292 1.2726	1.8207 0.3074 0.5843 1.5790	1.7147 0.4415 0.7909 1.9326	1.5857 0.5531 1.0429 2.2961	1.4367 0.6355 1.3346 2.6450	1.2707 0.6832 1.6597 2.9650	1.0904 0.6897 2.0135 3.2510	0.8939 0.6411 2.3999 3.5071	
0.75	1.9507 0.0388 0.3320 1.0596	1.9034 0.1552 0.4241 1.2616	1.8247 0.2977 0.5774 1.5656	1.7196 0.4320 0.7828 1.9184	1.5914 0.5441 1.0337 2.2817	1.4430 0.6272 1.3244 2.6304	1.2778 0.6757 1.6484 2.9506	1.0980 0.6831 2.0012 3.2368	0.9018 0.6357 2.3868 3.4935	
0.80	1.9520 0.0347 0.3296 1.0542	1.9064 0.1466 0.4186 1.2499	1.8288 0.2881 0.5701 1.5514	1.7246 0.4226 0.7742 1.9033	1.5971 0.5352 1.0240 2.2663	1.4494 0.6189 1.3136 2.6151	1.2848 0.6683 1.6366 2.9354	1.1056 0.6766 1.9884 3.2221	0.9096 0.6306 2.3735 3.4795	
0.85	1.9533 0.0305 0.3270 1.0482	1.9096 0.1378 0.4126 1.2372	1.8331 0.2782 0.5623 1.5362	1.7297 0.4130 0.7651 1.8873	1.6029 0.5262 1.0138 2.2501	1.4559 0.6107 1.3023 2.5990	1.2918 0.6609 1.6243 2.9197	1.1131 0.6704 1.9752 3.2068	0.9173 0.6257 2.3599 3.4653	
0.90	1.9548 0.0258 0.3240 1.0415	1.9130 0.1285 0.4060 1.2230	1.8377 0.2681 0.5538 1.5196	1.7349 0.4033 0.7553 1.8701	1.6088 0.5173 1.0030 2.2329	1.4624 0.6026 1.2904 2.5821	1.2989 0.6537 1.6115 2.9032	1.1206 0.6642 1.9617 3.1911	0.9249 0.6209 2.3461 3.4508	
0.95	1.9567 0.0203 0.3204 1.0330	1.9169 0.1182 0.3984 1.2066	1.8425 0.2575 0.5446 1.5015	1.7404 0.3934 0.7450 1.8518	1.6148 0.5083 0.9916 2.2148	1.4690 0.5945 1.2781 2.5644	1.3060 0.6466 1.5982 2.8860	1.1280 0.6582 1.9477 3.1748	0.9323 0.6163 2.3321 3.4361	
1.00	1.9599 0.0112 0.3141 1.0185	1.9217 0.1060 0.3891 1.1863	1.8478 0.2461 0.5342 1.4811	1.7461 0.3832 0.7339 1.8321	1.6210 0.4992 0.9797 2.1958	1.4757 0.5864 1.2651 2.5458	1.3131 0.6395 1.5844 2.8682	1.1354 0.6523 1.9333 3.1580	0.9396 0.6119 2.3179 3.4211	
F_{∞}	0.3605	0.3983	0.4719	0.5684	0.6870	0.8327	1.0177	1.2702	1.6740	

$$M_{\infty} = 4$$

ξ	β_{κ}									
	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0.00	2.1053 0.1842 0.2617 1.1943	2.0379 0.3593 0.3856 1.5712	1.9427 0.5206 0.5716 2.0468	1.8202 0.6625 0.8176 2.5461	1.6720 0.7797 1.1186 3.0157	1.5011 0.8667 1.4675 3.4291	1.3114 0.9189 1.8557 3.7793	1.1068 0.9287 2.2751 4.0704	0.8896 0.8896 2.7210 4.3120	0.6527 0.7778 3.2088 4.5202
0.05	2.1069 0.1668 0.2613 1.1930	2.0404 0.3458 0.3853 1.5703	1.9459 0.5089 0.5713 2.0460	1.8241 0.6519 0.8173 2.5453	1.6767 0.7697 1.1182 3.0150	1.5067 0.8570 1.4670 3.4284	1.3181 0.9088 1.8552 3.7786	1.1147 0.9193 2.2745 4.0696	0.8992 0.8801 2.7202 4.3111	0.6650 0.7676 3.2076 4.5191
0.10	2.1084 0.1524 0.2604 1.1900	2.0427 0.3331 0.3844 1.5679	1.9490 0.4978 0.5704 2.0438	1.8279 0.6417 0.8163 2.5433	1.6813 0.7600 1.1172 3.0129	1.5122 0.8476 1.4658 3.4263	1.3246 0.8996 1.8537 3.7765	1.1225 0.9102 2.2727 4.0673	0.9086 0.8710 2.7179 4.3085	0.6768 0.7582 3.2044 4.5158
0.15	2.1097 0.1401 0.2591 1.1859	2.0450 0.3214 0.3831 1.5641	1.9520 0.4871 0.5691 2.0403	1.8317 0.6318 0.8148 2.5399	1.6859 0.7506 1.1155 3.0096	1.5177 0.8386 1.4638 3.4229	1.3311 0.8907 1.8513 3.7730	1.1302 0.9015 2.2698 4.0637	0.9176 0.8624 2.7144 4.3045	0.6880 0.7495 3.1994 4.5108
0.20	2.1110 0.1294 0.2576 1.1810	2.0472 0.3103 0.3815 1.5593	1.9550 0.4769 0.5672 2.0357	1.8354 0.6223 0.8128 2.5354	1.6904 0.7415 1.1131 3.0051	1.5231 0.8297 1.4610 3.4184	1.3374 0.8821 1.8481 3.7683	1.1376 0.8931 2.2660 4.0588	0.9265 0.8542 2.7096 4.2991	0.6987 0.7414 3.1930 4.5043
0.25	2.1122 0.1200 0.2560 1.1757	2.0494 0.2998 0.3795 1.5535	1.9580 0.4670 0.5650 2.0300	1.8391 0.6129 0.8103 2.5298	1.6948 0.7326 1.1102 2.9995	1.5284 0.8211 1.4577 3.4127	1.3437 0.8738 1.8441 3.7625	1.1450 0.8850 2.2612 4.0527	0.9351 0.8464 2.7038 4.2925	0.7090 0.7339 3.1853 4.4966
0.30	2.1134 0.1116 0.2543 1.1700	2.0516 0.2899 0.3772 1.5468	1.9609 0.4574 0.5624 2.0234	1.8427 0.6039 0.8073 2.5232	1.6992 0.7239 1.1068 2.9929	1.5336 0.8127 1.4536 3.4060	1.3499 0.8657 1.8394 3.7556	1.1522 0.8772 2.2556 4.0455	0.9435 0.8389 2.6971 4.2848	0.7189 0.7269 3.1766 4.4878
0.35	2.1145 0.1041 0.2525 1.1641	2.0537 0.2804 0.3747 1.5394	1.9638 0.4481 0.5595 2.0158	1.8463 0.5950 0.8039 2.5156	1.7036 0.7154 1.1028 2.9853	1.5388 0.8045 1.4490 3.3983	1.3560 0.8577 1.8340 3.7477	1.1593 0.8696 2.2493 4.0373	0.9517 0.8317 2.6894 4.2762	0.7285 0.7203 3.1670 4.4782
0.40	2.1156 0.0971 0.2506 1.1580	2.0558 0.2712 0.3719 1.5313	1.9666 0.4391 0.5562 2.0073	1.8499 0.5863 0.8001 2.5070	1.7079 0.7071 1.0984 2.9767	1.5440 0.7965 1.4438 3.3896	1.3620 0.8500 1.8279 3.7389	1.1663 0.8622 2.2422 4.0282	0.9597 0.8248 2.6810 4.2666	0.7377 0.7141 3.1567 4.4677
0.45	2.1166 0.0907 0.2487 1.1517	2.0579 0.2624 0.3689 1.5225	1.9695 0.4302 0.5526 1.9980	1.8535 0.5778 0.7959 2.4976	1.7123 0.6989 1.0935 2.9671	1.5491 0.7886 1.4381 3.3800	1.3680 0.8424 1.8213 3.7291	1.1732 0.8550 2.2344 4.0182	0.9676 0.8182 2.6719 4.2563	0.7466 0.7082 3.1457 4.4566
0.50	2.1177 0.0847 0.2468 1.1453	2.0600 0.2538 0.3658 1.5132	1.9724 0.4215 0.5487 1.9879	1.8571 0.5694 0.7913 2.4873	1.7166 0.6908 1.0881 2.9567	1.5542 0.7809 1.4318 3.3695	1.3740 0.8350 1.8140 3.7185	1.1801 0.8481 2.2259 4.0074	0.9754 0.8118 2.6621 4.2451	0.7552 0.7027 3.1342 4.4449

$$M_{\infty} = 4$$

ξ	β_k									
	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0.55	2.1187 0.0790 0.2448 1.1387	2.0621 0.2455 0.3624 1.5031	1.9753 0.4130 0.5445 1.9770	1.8607 0.5612 0.7863 2.4761	1.7209 0.6829 1.0823 2.9454	1.5593 0.7733 1.4251 3.3584	1.3799 0.8278 1.8061 3.7070	1.1868 0.8413 2.2169 3.9957	0.9830 0.8056 2.6517 4.2333	0.7636 0.6975 3.1222 4.4328
0.60	2.1198 0.0736 0.2427 1.1319	2.0642 0.2373 0.3588 1.4925	1.9782 0.4045 0.5400 1.9653	1.8643 0.5530 0.7810 2.4641	1.7252 0.6750 1.0760 2.9332	1.5644 0.7657 1.4178 3.3458	1.3858 0.8207 1.7977 3.6946	1.1936 0.8346 2.2072 3.9833	0.9905 0.7996 2.6407 4.2207	0.7717 0.6926 3.1098 4.4202
0.65	2.1208 0.0684 0.2406 1.1248	2.0664 0.2291 0.3550 1.4811	1.9811 0.3961 0.5352 1.9528	1.8679 0.5449 0.7753 2.4512	1.7296 0.6673 1.0693 2.9202	1.5695 0.7583 1.4100 3.3327	1.3917 0.8136 1.7888 3.6815	1.2002 0.8281 2.1970 3.9701	0.9979 0.7938 2.6292 4.2076	0.7796 0.6879 3.0971 4.4073
0.70	2.1219 0.0632 0.2384 1.1174	2.0686 0.2211 0.3509 1.4691	1.9841 0.3878 0.5300 1.9394	1.8716 0.5368 0.7692 2.4374	1.7340 0.6595 1.0622 2.9063	1.5746 0.7510 1.4018 3.3187	1.3976 0.8067 1.7793 3.6675	1.2068 0.8217 2.1863 3.9563	1.0052 0.7882 2.6172 4.1939	0.7872 0.6835 3.0840 4.3940
0.75	2.1230 0.0581 0.2361 1.1097	2.0708 0.2130 0.3466 1.4562	1.9871 0.3794 0.5246 1.9251	1.8753 0.5288 0.7627 2.4227	1.7384 0.6519 1.0547 2.8915	1.5797 0.7437 1.3930 3.3039	1.4034 0.7999 1.7693 3.6528	1.2134 0.8155 2.1750 3.9417	1.0123 0.7827 2.6048 4.1796	0.7947 0.6792 3.0708 4.3805
0.80	2.1242 0.0529 0.2336 1.1013	2.0732 0.2048 0.3420 1.4424	1.9902 0.3710 0.5188 1.9098	1.8791 0.5207 0.7558 2.4071	1.7428 0.6442 1.0456 2.8758	1.5849 0.7365 1.3838 3.2883	1.4093 0.7931 1.7588 3.6372	1.2200 0.8093 2.1632 3.9263	1.0195 0.7774 2.5918 4.1648	0.8020 0.6752 3.0573 4.3667
0.85	2.1255 0.0474 0.2308 1.0920	2.0757 0.1963 0.3371 1.4274	1.9934 0.3625 0.5126 1.8935	1.8829 0.5126 0.7485 2.3904	1.7473 0.6366 1.0382 2.8591	1.5901 0.7293 1.3741 3.2717	1.4152 0.7864 1.7477 3.6209	1.2265 0.8033 2.1509 3.9104	1.0266 0.7722 2.5785 4.1495	0.8092 0.6713 3.0436 4.3528
0.90	2.1270 0.0414 0.2277 1.0813	2.0783 0.1875 0.3317 1.4110	1.9968 0.3538 0.5059 1.8759	1.8869 0.5044 0.7407 2.3727	1.7519 0.6289 1.0292 2.8415	1.5953 0.7221 1.3638 3.2543	1.4211 0.7798 1.7362 3.6038	1.2331 0.7973 2.1381 3.8938	1.0335 0.7672 2.5648 4.1336	0.8161 0.6676 3.0297 4.3386
0.95	2.1289 0.0341 0.2237 1.0677	2.0812 0.1782 0.3256 1.3926	2.0002 0.3449 0.4987 1.8569	1.8909 0.4962 0.7325 2.3538	1.7565 0.6212 1.0197 2.8228	1.6006 0.7149 1.3530 3.2359	1.4271 0.7732 1.7241 3.5859	1.2396 0.7915 2.1249 3.8765	1.0405 0.7622 2.5506 4.1174	0.8230 0.6640 3.0157 4.3243
1.00	2.1324 0.0210 0.2162 1.0422	2.0845 0.1678 0.3187 1.3714	2.0039 0.3356 0.4910 1.8361	1.8951 0.4877 0.7236 2.3335	1.7613 0.6134 1.0097 2.8030	1.6060 0.7077 1.3417 3.2166	1.4331 0.7667 1.7115 3.5671	1.2462 0.7857 2.1111 3.8586	1.0474 0.7574 2.5362 4.1007	0.8297 0.6606 3.0016 4.3098
F_r		0.3194	0.3998	0.4983	0.6143	0.7518	0.9196	1.1353	1.4400	1.9806

$$M_{\infty} = 5$$

ξ	β_k									
	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0.00	2.2045 0.1900 0.2010 1.2762	2.1394 0.3772 0.3298 1.8023	2.0440 0.5477 0.5284 2.4305	1.9189 0.6984 0.7940 3.0370	1.7660 0.8235 1.1204 3.5600	1.5892 0.9175 1.4990 3.9858	1.3927 0.9752 1.9202 4.3230	1.1813 0.9913 2.3737 4.5878	0.9588 0.9588 2.8516 4.7967	0.7237 0.8625 3.3571 4.9659
0.05	2.2058 0.1791 0.2008 1.2752	2.1412 0.3668 0.3296 1.8015	2.0465 0.5387 0.5282 2.4299	1.9220 0.6900 0.7938 3.0363	1.7699 0.8153 1.1200 3.5594	1.5939 0.9094 1.4987 3.9851	1.3985 0.9670 1.9198 4.3223	1.1883 0.9831 2.3732 4.5871	0.9672 0.9504 2.8509 4.7959	0.7343 0.8537 3.3562 4.9649
0.10	2.2070 0.1671 0.2002 1.2723	2.1430 0.3570 0.3290 1.7993	2.0489 0.5300 0.5276 2.4278	1.9250 0.6818 0.7931 3.0344	1.7737 0.8073 1.1192 3.5574	1.5986 0.9014 1.4976 3.9831	1.4042 0.9591 1.9185 4.3203	1.1952 0.9751 2.3716 4.5850	0.9755 0.9424 2.8490 4.7935	0.7446 0.8455 3.3535 4.9621
0.15	2.2081 0.1564 0.1992 1.2681	2.1448 0.3476 0.3281 1.7958	2.0512 0.5215 0.5266 2.4246	1.9280 0.6738 0.7919 3.0312	1.7774 0.7995 1.1178 3.5542	1.6032 0.8937 1.4960 3.9799	1.4098 0.9513 1.9164 4.3170	1.2019 0.9673 2.3691 4.5815	0.9835 0.9346 2.8458 4.7898	0.7544 0.8377 3.3493 4.9577
0.20	2.2092 0.1469 0.1981 1.2629	2.1465 0.3387 0.3269 1.7911	2.0536 0.5132 0.5253 2.4201	1.9310 0.6659 0.7903 3.0268	1.7812 0.7918 1.1159 3.5499	1.6078 0.8861 1.4937 3.9756	1.4153 0.9438 1.9137 4.3125	1.2085 0.9598 2.3657 4.5768	0.9914 0.9272 2.8416 4.7847	0.7639 0.8304 3.3438 4.9518
0.25	2.2102 0.1383 0.1968 1.2571	2.1483 0.3301 0.3255 1.7855	2.0559 0.5052 0.5236 2.4146	1.9340 0.6582 0.7883 3.0214	1.7849 0.7843 1.1135 3.5445	1.6123 0.8786 1.4908 3.9711	1.4208 0.9364 1.9102 4.3069	1.2150 0.9526 2.3615 4.5710	0.9991 0.9201 2.8365 4.7785	0.7731 0.8234 3.3372 4.9448
0.30	2.2112 0.1304 0.1954 1.2506	2.1499 0.3218 0.3238 1.7789	2.0582 0.4974 0.5216 2.4081	1.9369 0.6507 0.7860 3.0149	1.7885 0.7769 1.1107 3.5380	1.6168 0.8713 1.4873 3.9636	1.4262 0.9292 1.9060 4.3002	1.2214 0.9455 2.3565 4.5641	1.0067 0.9132 2.8304 4.7712	0.7821 0.8169 3.3295 4.9367
0.35	2.2121 0.1231 0.1939 1.2438	2.1516 0.3138 0.3219 1.7715	2.0605 0.4897 0.5194 2.4007	1.9399 0.6433 0.7833 3.0075	1.7922 0.7697 1.1074 3.5306	1.6212 0.8642 1.4834 3.9560	1.4315 0.9221 1.9013 4.2925	1.2278 0.9385 2.3508 4.5561	1.0141 0.9065 2.8235 4.7628	0.7908 0.8106 3.3209 4.9276
0.40	2.2131 0.1162 0.1923 1.2366	2.1533 0.3060 0.3198 1.7632	2.0628 0.4822 0.5168 2.3923	1.9428 0.6361 0.7802 2.9991	1.7958 0.7626 1.1037 3.5221	1.6257 0.8571 1.4789 3.9475	1.4368 0.9152 1.8959 4.2837	1.2341 0.9318 2.3443 4.5472	1.0215 0.9001 2.8158 4.7536	0.7992 0.8047 3.3115 4.9176
0.45	2.2140 0.1098 0.1907 1.2290	2.1550 0.2984 0.3175 1.7540	2.0651 0.4748 0.5140 2.3830	1.9457 0.6289 0.7768 2.9898	1.7994 0.7555 1.0996 3.5127	1.6301 0.8502 1.4739 3.9380	1.4421 0.9084 1.8899 4.2742	1.2403 0.9252 2.3372 4.5374	1.0286 0.8939 2.8074 4.7434	0.8074 0.7990 3.3014 4.9069
0.50	2.2149 0.1037 0.1890 1.2210	2.1566 0.2910 0.3150 1.7442	2.0674 0.4676 0.5110 2.3728	1.9486 0.6218 0.7731 2.9795	1.8031 0.7486 1.0950 3.5024	1.6345 0.8434 1.4685 3.9275	1.4474 0.9017 1.8834 4.2635	1.2464 0.9188 2.3295 4.5267	1.0357 0.8878 2.7983 4.7324	0.8154 0.7936 3.2907 4.8955

$$M_{\infty} = 5$$

ξ	β_k									
	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0.55	2.2159 0.0978 0.1872 1.2128	2.1583 0.2837 0.3124 1.7338	2.0697 0.4603 0.5076 2.3618	1.9515 0.6148 0.7690 2.9683	1.8067 0.7417 1.0901 3.4911	1.6389 0.8366 1.4625 3.9162	1.4526 0.8951 1.8763 4.2521	1.2525 0.9124 2.3212 4.5151	1.0427 0.8819 2.7886 4.7207	0.8233 0.7884 3.2794 4.8835
0.60	2.2168 0.0921 0.1853 1.2041	2.1600 0.2764 0.3095 1.7225	2.0720 0.4532 0.5041 2.3499	1.9545 0.6079 0.7646 2.9562	1.8103 0.7349 1.0848 3.4789	1.6433 0.8299 1.4561 3.9040	1.4578 0.8886 1.8687 4.2398	1.2586 0.9062 2.3123 4.5027	1.0496 0.8762 2.7782 4.7082	0.8309 0.7834 3.2675 4.8709
0.65	2.2178 0.0865 0.1833 1.1950	2.1618 0.2693 0.3065 1.7102	2.0743 0.4461 0.5002 2.3370	1.9574 0.6010 0.7599 2.9432	1.8139 0.7281 1.0791 3.4658	1.6476 0.8233 1.4493 3.8908	1.4630 0.8822 1.8606 4.2266	1.2646 0.9002 2.3028 4.4895	1.0565 0.8706 2.7674 4.6950	0.8384 0.7787 3.2553 4.8578
0.70	2.2188 0.0810 0.1813 1.1854	2.1635 0.2621 0.3032 1.6973	2.0767 0.4390 0.4961 2.3232	1.9604 0.5941 0.7549 2.9292	1.8176 0.7214 1.0730 3.4518	1.6521 0.8168 1.4420 3.8768	1.4682 0.8759 1.8520 4.2126	1.2706 0.8942 2.2928 4.4756	1.0632 0.8652 2.7559 4.6812	0.8457 0.7741 3.2426 4.8442
0.75	2.2198 0.0754 0.1791 1.1750	2.1653 0.2549 0.2998 1.6834	2.0791 0.4319 0.4917 2.3085	1.9634 0.5872 0.7495 2.9142	1.8213 0.7147 1.0664 3.4368	1.6565 0.8102 1.4342 3.8619	1.4734 0.8696 1.8428 4.1979	1.2766 0.8883 2.2822 4.4609	1.0699 0.8599 2.7440 4.6667	0.8529 0.7697 3.2295 4.8303
0.80	2.2209 0.0697 0.1767 1.1638	2.1672 0.2476 0.2961 1.6685	2.0815 0.4247 0.4870 2.2927	1.9665 0.5803 0.7437 2.8985	1.8250 0.7080 1.0595 3.4209	1.6609 0.8038 1.4260 3.8460	1.4786 0.8634 1.8332 4.1822	1.2825 0.8825 2.2711 4.4454	1.0765 0.8547 2.7316 4.6516	0.8600 0.7654 3.2160 4.8159
0.85	2.2221 0.0636 0.1740 1.1513	2.1691 0.2402 0.2921 1.6526	2.0841 0.4175 0.4820 2.2760	1.9696 0.5734 0.7377 2.8814	1.8287 0.7013 1.0522 3.4042	1.6654 0.7973 1.4173 3.8293	1.4838 0.8572 1.8231 4.1657	1.2885 0.8767 2.2596 4.4291	1.0831 0.8496 2.7187 4.6359	0.8669 0.7613 3.2023 4.8012
0.90	2.2235 0.0567 0.1709 1.1366	2.1712 0.2325 0.2878 1.6351	2.0866 0.4101 0.4766 2.2580	1.9727 0.5664 0.7312 2.8636	1.8325 0.6946 1.0445 3.3863	1.6699 0.7908 1.4081 3.8116	1.4891 0.8511 1.8124 4.1483	1.2944 0.8711 2.2475 4.4122	1.0897 0.8446 2.7053 4.6196	0.8737 0.7574 3.1882 4.7861
0.95	2.2253 0.0483 0.1669 1.1174	2.1734 0.2245 0.2831 1.6160	2.0893 0.4027 0.4709 2.2387	1.9760 0.5594 0.7244 2.8443	1.8364 0.6879 1.0363 3.3674	1.6744 0.7844 1.3985 3.7930	1.4943 0.8450 1.8013 4.1301	1.3004 0.8655 2.2349 4.3945	1.0962 0.8397 2.6915 4.6028	0.8804 0.7536 3.1739 4.7708
1.00	2.2291 0.0310 0.1583 1.0763	2.1757 0.2160 0.2779 1.5946	2.0920 0.3951 0.4649 2.2180	1.9792 0.5523 0.7172 2.8240	1.8404 0.6811 1.0278 3.3473	1.6790 0.7779 1.3884 3.7734	1.4996 0.8389 1.7896 4.1108	1.3064 0.8599 2.2218 4.3761	1.1026 0.8349 2.6773 4.5853	0.8870 0.7498 3.1594 4.7551
F_x	0.2235	0.2794	0.3645	0.4651	0.5810	0.7160	0.8778	1.0811	1.3576	1.8000

$$M_{\infty} = 6$$

ξ	β_{κ}									
	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0.00	2.2650 0.1982 0.1626 1.3709	2.2016 0.3882 0.2937 2.0512	2.1060 0.5643 0.5006 2.8111	1.9789 0.7203 0.7787 3.4827	1.8230 0.8501 1.1212 4.0167	1.6424 0.9482 1.5187 4.4231	1.4416 1.0094 1.9607 4.7283	1.2258 1.0286 2.4361 4.9583	0.9993 0.9994 2.9354 5.1336	0.7630 0.9093 3.4571 5.2709
0.05	2.2660 0.1868 0.1624 1.3699	2.2030 0.3799 0.2936 2.0505	2.1080 0.5569 0.5004 2.8105	1.9815 0.7131 0.7785 3.4821	1.8264 0.8429 1.1209 4.0161	1.6466 0.9409 1.5184 4.4224	1.4469 1.0020 1.9603 4.7276	1.2323 1.0210 2.4355 4.9574	1.0072 0.9916 2.9346 5.1328	0.7727 0.9011 3.4562 5.2700
0.10	2.2670 0.1766 0.1620 1.3671	2.2045 0.3719 0.2932 2.0484	2.1100 0.5497 0.4999 2.8085	1.9841 0.7061 0.7779 3.4802	1.8297 0.8359 1.1202 4.0142	1.6508 0.9338 1.5175 4.4205	1.4520 0.9948 1.9592 4.7256	1.2386 1.0137 2.4340 4.9555	1.0149 0.9841 2.9329 5.1306	0.7822 0.8935 3.4538 5.2673
0.15	2.2679 0.1674 0.1612 1.3628	2.2059 0.3643 0.2925 2.0451	2.1119 0.5426 0.4991 2.8054	1.9867 0.6993 0.7769 3.4771	1.8330 0.8291 1.1190 4.0111	1.6549 0.9268 1.5160 4.4174	1.4571 0.9877 1.9573 4.7224	1.2448 1.0065 2.4317 4.9521	1.0224 0.9769 2.9300 5.1269	0.7914 0.8862 3.4500 5.2631
0.20	2.2688 0.1590 0.1603 1.3573	2.2073 0.3569 0.2916 2.0406	2.1138 0.5358 0.4981 2.8011	1.9892 0.6926 0.7756 3.4729	1.8363 0.8223 1.1173 4.0069	1.6590 0.9200 1.5139 4.4131	1.4622 0.9807 1.9548 4.7181	1.2509 0.9995 2.4286 4.9474	1.0297 0.9699 2.9260 5.1221	0.8002 0.8793 3.4449 5.2576
0.25	2.2697 0.1512 0.1593 1.3510	2.2087 0.3497 0.2905 2.0351	2.1158 0.5290 0.4967 2.7958	1.9917 0.6860 0.7740 3.4676	1.8395 0.8157 1.1153 4.0016	1.6630 0.9133 1.5114 4.4077	1.4672 0.9739 1.9515 4.7126	1.2569 0.9927 2.4248 4.9418	1.0369 0.9632 2.9213 5.1160	0.8089 0.8727 3.4387 5.2509
0.30	2.2706 0.1439 0.1582 1.3440	2.2101 0.3427 0.2892 2.0286	2.1177 0.5224 0.4951 2.7894	1.9943 0.6795 0.7720 3.4613	1.8427 0.8092 1.1128 3.9953	1.6671 0.9067 1.5083 4.4013	1.4721 0.9673 1.9478 4.7060	1.2629 0.9861 2.4202 4.9350	1.0440 0.9567 2.9156 5.1089	0.8173 0.8664 3.4315 5.2430
0.35	2.2714 0.1370 0.1569 1.3364	2.2115 0.3359 0.2877 2.0212	2.1196 0.5159 0.4933 2.7820	1.9968 0.6731 0.7697 3.4539	1.8459 0.8027 1.1099 3.9879	1.6711 0.9002 1.5047 4.3938	1.4770 0.9607 1.9434 4.6984	1.2688 0.9796 2.4149 4.9272	1.0510 0.9503 2.9090 5.1008	0.8255 0.8604 3.4234 5.2342
0.40	2.2722 0.1305 0.1556 1.3282	2.2128 0.3293 0.2861 2.0129	2.1215 0.5095 0.4912 2.7737	1.9993 0.6668 0.7671 3.4456	1.8491 0.7964 1.1066 3.9795	1.6751 0.8938 1.5006 4.3854	1.4819 0.9543 1.9384 4.6898	1.2746 0.9732 2.4087 4.9184	1.0579 0.9442 2.9017 5.0917	0.8335 0.8545 3.4145 5.2245
0.45	2.2730 0.1244 0.1541 1.3194	2.2142 0.3228 0.2843 2.0037	2.1234 0.5032 0.4889 2.7644	2.0017 0.6605 0.7642 3.4363	1.8523 0.7901 1.1030 3.9701	1.6790 0.8874 1.4961 4.3760	1.4868 0.9480 1.9329 4.6803	1.2804 0.9670 2.4020 4.9087	1.0646 0.9382 2.8937 5.0815	0.8413 0.8491 3.4049 5.2139
0.50	2.2739 0.1185 0.1526 1.3102	2.2156 0.3164 0.2823 1.9937	2.1253 0.4970 0.4864 2.7542	2.0042 0.6543 0.7610 3.4260	1.8555 0.7839 1.0990 3.9598	1.6830 0.8812 1.4912 4.3656	1.4916 0.9418 1.9268 4.6698	1.2861 0.9609 2.3948 4.8981	1.0713 0.9323 2.8850 5.0706	0.8490 0.8438 3.3946 5.2026

$$M_{\infty} = 6$$

ξ	β_{κ}									
	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0.55	2.2747 0.1127 0.1510 1.3003	2.2170 0.3100 0.2801 1.9829	2.1272 0.4908 0.4837 2.7431	2.0067 0.6482 0.7575 3.4148	1.8587 0.7777 1.0946 3.9486	1.6870 0.8750 1.4858 4.3543	1.4964 0.9356 1.9202 4.6584	1.2918 0.9549 2.3870 4.8865	1.0780 0.9267 2.8758 5.0590	0.8565 0.8387 3.3837 5.1907
0.60	2.2755 0.1070 0.1493 1.2900	2.2184 0.3037 0.2778 1.9712	2.1291 0.4846 0.4807 2.7311	2.0093 0.6421 0.7537 3.4027	1.8619 0.7716 1.0899 3.9364	1.6909 0.8689 1.4799 4.3420	1.5012 0.9295 1.9131 4.6461	1.2975 0.9490 2.3785 4.8743	1.0845 0.9212 2.8658 5.0465	0.8638 0.8338 3.3722 5.1781
0.65	2.2764 0.1014 0.1476 1.2791	2.2198 0.2975 0.2754 1.9587	2.1310 0.4785 0.4775 2.7181	2.0118 0.6360 0.7497 3.3896	1.8651 0.7655 1.0848 3.9233	1.6949 0.8628 1.4736 4.3289	1.5060 0.9235 1.9056 4.6329	1.3032 0.9432 2.3694 4.8610	1.0910 0.9158 2.8552 5.0333	0.8710 0.8290 3.3602 5.1650
0.70	2.2773 0.0958 0.1457 1.2673	2.2212 0.2912 0.2727 1.9453	2.1330 0.4724 0.4741 2.7042	2.0143 0.6300 0.7454 3.3756	1.8683 0.7595 1.0794 3.9092	1.6989 0.8568 1.4669 4.3148	1.5107 0.9176 1.8975 4.6189	1.3088 0.9375 2.3598 4.8470	1.0974 0.9105 2.8443 5.0194	0.8781 0.8245 3.3478 5.1513
0.75	2.2782 0.0901 0.1436 1.2546	2.2227 0.2850 0.2699 1.9309	2.1350 0.4662 0.4704 2.6893	2.0169 0.6239 0.7407 3.3606	1.8715 0.7535 1.0736 3.8942	1.7028 0.8508 1.4598 4.2999	1.5155 0.9117 1.8889 4.6040	1.3144 0.9319 2.3496 4.8322	1.1038 0.9054 2.8327 5.0048	0.8850 0.8201 3.3349 5.1372
0.80	2.2792 0.0842 0.1414 1.2406	2.2242 0.2786 0.2669 1.9154	2.1370 0.4601 0.4665 2.6734	2.0195 0.6179 0.7358 3.3446	1.8748 0.7474 1.0674 3.8783	1.7068 0.8448 1.4523 4.2840	1.5203 0.9059 1.8799 4.5882	1.3200 0.9263 2.3392 4.8167	1.1101 0.9003 2.8207 4.9896	0.8919 0.8158 3.3216 5.1225
0.85	2.2804 0.0778 0.1389 1.2247	2.2258 0.2722 0.2637 1.8989	2.1390 0.4539 0.4624 2.6564	2.0221 0.6118 0.7306 3.3276	1.8780 0.7414 1.0609 3.8613	1.7109 0.8388 1.4443 4.2671	1.5251 0.9001 1.8703 4.5716	1.3256 0.9208 2.3281 4.8003	1.1164 0.8953 2.8081 4.9737	0.8986 0.8116 3.3080 5.1075
0.90	2.2817 0.0706 0.1359 1.2061	2.2274 0.2656 0.2602 1.8810	2.1411 0.4476 0.4580 2.6382	2.0248 0.6057 0.7250 3.3095	1.8814 0.7354 1.0540 3.8434	1.7149 0.8329 1.4359 4.2494	1.5300 0.8943 1.8603 4.5541	1.3312 0.9154 2.3165 4.7832	1.1227 0.8904 2.7951 4.9572	0.9053 0.8076 3.2940 5.0921
0.95	2.2833 0.0616 0.1321 1.1816	2.2291 0.2588 0.2564 1.8616	2.1433 0.4412 0.4533 2.6188	2.0275 0.5996 0.7191 3.2903	1.8847 0.7293 1.0467 3.8243	1.7190 0.8269 1.4270 4.2306	1.5348 0.8886 1.8498 4.5357	1.3368 0.9100 2.3043 4.7653	1.1289 0.8856 2.7815 4.9400	0.9118 0.8037 3.2797 5.0762
1.00	2.2881 0.0369 0.1210 1.1102	2.2309 0.2517 0.2523 1.8403	2.1455 0.4347 0.4483 2.5981	2.0302 0.5933 0.7129 3.2699	1.8881 0.7232 1.0390 3.8043	1.7232 0.8210 1.4177 4.2109	1.5397 0.8828 1.8388 4.5164	1.3423 0.9046 2.2918 4.7467	1.1350 0.8808 2.7676 4.9223	0.9183 0.7999 3.2650 5.0600
F_x	0.1947	0.2559	0.3445	0.4467	0.5629	0.6969	0.8559	1.0534	1.3172	1.7213

$$M_{\infty} = 7$$

ξ	β_{κ}									
	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0.00	2.3040 0.2016 0.1355 1.4571	2.2420 0.3953 0.2695 2.3092	2.1461 0.5751 0.4818 3.1716	2.0177 0.7344 0.7683 3.8706	1.8597 0.8672 1.1215 4.3878	1.6765 0.9680 1.5316 4.7600	1.4730 1.0314 1.9874 5.0284	1.2542 1.0524 2.4774 5.2245	1.0251 1.0251 2.9908 5.3704	0.7872 0.9382 3.5244 5.4822
0.05	2.3055 0.1928 0.1353 1.4631	2.2432 0.3885 0.2694 2.3085	2.1478 0.5687 0.4817 3.1710	2.0200 0.7281 0.7681 3.8700	1.8628 0.8607 1.1213 4.3871	1.6804 0.9612 1.5312 4.7594	1.4779 1.0244 1.9871 5.0278	1.2603 1.0453 2.4768 5.2237	1.0326 1.0177 2.9902 5.3697	0.7965 0.9304 3.5236 5.4813
0.10	2.3062 0.1847 0.1350 1.4602	2.2445 0.3818 0.2691 2.3065	2.1495 0.5625 0.4813 3.1691	2.0223 0.7219 0.7676 3.8682	1.8658 0.8544 1.1207 4.3853	1.6843 0.9546 1.5304 4.7576	1.4827 1.0176 1.9860 5.0258	1.2663 1.0383 2.4754 5.2218	1.0399 1.0106 2.9885 5.3675	0.8055 0.9231 3.5213 5.4788
0.15	2.3069 0.1772 0.1345 1.4563	2.2456 0.3753 0.2686 2.3033	2.1512 0.5565 0.4806 3.1660	2.0246 0.7158 0.7668 3.8652	1.8688 0.8482 1.1196 4.3823	1.6881 0.9482 1.5290 4.7544	1.4875 1.0109 1.9842 5.0227	1.2722 1.0315 2.4732 5.2185	1.0470 1.0037 2.9857 5.3639	0.8143 0.9161 3.5177 5.4747
0.20	2.3076 0.1702 0.1339 1.4515	2.2468 0.3691 0.2679 2.2990	2.1529 0.5505 0.4797 3.1618	2.0268 0.7099 0.7656 3.8610	1.8717 0.8420 1.1181 4.3781	1.6919 0.9418 1.5271 4.7503	1.4922 1.0044 1.9819 5.0184	1.2780 1.0248 2.4703 5.2139	1.0541 0.9970 2.9820 5.3591	0.8228 0.9094 3.5128 5.4694
0.25	2.3083 0.1636 0.1332 1.4458	2.2480 0.3630 0.2670 2.2936	2.1545 0.5447 0.4786 3.1566	2.0291 0.7040 0.7642 3.8558	1.8747 0.8359 1.1162 4.3729	1.6957 0.9355 1.5248 4.7449	1.4969 0.9980 1.9789 5.0129	1.2837 1.0183 2.4667 5.2083	1.0610 0.9905 2.9774 5.3532	0.8311 0.9031 3.5069 5.4628
0.30	2.3090 0.1574 0.1324 1.4394	2.2491 0.3570 0.2659 2.2872	2.1561 0.5389 0.4773 3.1503	2.0313 0.6982 0.7625 3.8495	1.8776 0.8300 1.1140 4.3666	1.6994 0.9294 1.5220 4.7386	1.5016 0.9917 1.9753 5.0064	1.2894 1.0120 2.4622 5.2017	1.0678 0.9842 2.9719 5.3461	0.8392 0.8969 3.5000 5.4551
0.35	2.3097 0.1514 0.1314 1.4322	2.2503 0.3511 0.2647 2.2798	2.1578 0.5333 0.4757 3.1430	2.0335 0.6924 0.7604 3.8422	1.8805 0.8241 1.1113 4.3593	1.7031 0.9233 1.5187 4.7313	1.5062 0.9855 1.9711 4.9989	1.2950 1.0057 2.4570 5.1939	1.0745 0.9781 2.9656 5.3380	0.8471 0.8911 3.4922 5.4464
0.40	2.3104 0.1458 0.1304 1.4244	2.2514 0.3454 0.2634 2.2715	2.1594 0.5277 0.4739 3.1346	2.0357 0.6868 0.7581 3.8339	1.8834 0.8182 1.1084 4.3509	1.7068 0.9173 1.5149 4.7228	1.5108 0.9794 1.9664 4.9904	1.3006 0.9996 2.4512 5.1852	1.0819 0.9721 2.9583 5.3290	0.8548 0.8855 3.4836 5.4368
0.45	2.3110 0.1403 0.1294 1.4160	2.2526 0.3397 0.2619 2.2623	2.1611 0.5221 0.4720 3.1255	2.0379 0.6812 0.7556 3.8247	1.8863 0.8125 1.1051 4.3416	1.7105 0.9114 1.5107 4.7134	1.5154 0.9734 1.9612 4.9809	1.3061 0.9937 2.4448 5.1755	1.0876 0.9663 2.9508 5.3190	0.8624 0.8801 3.4742 5.4264
0.50	2.3117 0.1350 0.1282 1.4071	2.2538 0.3341 0.2603 2.2522	2.1627 0.5166 0.4699 3.1153	2.0401 0.6756 0.7528 3.8145	1.8892 0.8067 1.1014 4.3314	1.7142 0.9055 1.5061 4.7032	1.5199 0.9674 1.9554 4.9704	1.3116 0.9878 2.4378 5.1649	1.0940 0.9607 2.9424 5.3082	0.8698 0.8748 3.4642 5.4152

$$M_{\infty} = 7$$

ξ	β_{κ}									
	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0.55	2.3124 0.1299 0.1270 1.3976	2.2549 0.3286 0.2585 2.2412	2.1644 0.5112 0.4675 3.1042	2.0424 0.6701 0.7497 3.8033	1.8921 0.8011 1.0974 4.3201	1.7179 0.8997 1.5010 4.6919	1.5245 0.9616 1.9492 4.9591	1.3170 0.9820 2.4302 5.1534	1.1004 0.9551 2.9334 5.2966	0.8771 0.8698 3.4535 5.4033
0.60	2.3130 0.1248 0.1257 1.3875	2.2561 0.3231 0.2566 2.2294	2.1660 0.5057 0.4650 3.0921	2.0446 0.6646 0.7463 3.7911	1.8950 0.7954 1.0930 4.3080	1.7216 0.8940 1.4955 4.6796	1.5290 0.9558 1.9424 4.9468	1.3224 0.9763 2.4221 5.1411	1.1067 0.9497 2.9135 5.2841	0.8842 0.8650 3.4423 5.3907
0.65	2.3137 0.1198 0.1244 1.3767	2.2573 0.3176 0.2545 2.2166	2.1677 0.5003 0.4622 3.0790	2.0468 0.6591 0.7427 3.7781	1.8979 0.7898 1.0884 4.2948	1.7253 0.8883 1.4895 4.6664	1.5335 0.9501 1.9352 4.9336	1.3278 0.9707 2.4134 5.1278	1.1130 0.9445 2.9135 5.2709	0.8913 0.8603 3.4306 5.3776
0.70	2.3144 0.1148 0.1228 1.3653	2.2585 0.3122 0.2523 2.2030	2.1693 0.4949 0.4593 3.0650	2.0491 0.6536 0.7388 3.7640	1.9008 0.7842 1.0834 4.2807	1.7290 0.8826 1.4832 4.6523	1.5380 0.9444 1.9275 4.9196	1.3332 0.9652 2.4041 5.1139	1.1192 0.9393 2.9028 5.2570	0.8982 0.8557 3.4183 5.3638
0.75	2.3152 0.1098 0.1214 1.3531	2.2597 0.3066 0.2500 2.1883	2.1711 0.4895 0.4562 3.0500	2.0513 0.6482 0.7347 3.7489	1.9038 0.7787 1.0781 4.2657	1.7327 0.8769 1.4766 4.6373	1.5426 0.9388 1.9193 4.9046	1.3386 0.9598 2.3944 5.0990	1.1253 0.9342 2.8914 5.2424	0.9050 0.8513 3.4056 5.3496
0.80	2.3159 0.1047 0.1197 1.3399	2.2610 0.3011 0.2475 2.1725	2.1728 0.4841 0.4527 3.0339	2.0536 0.6427 0.7303 3.7328	1.9068 0.7731 1.0724 4.2497	1.7364 0.8713 1.4695 4.6214	1.5471 0.9332 1.9106 4.8888	1.3440 0.9544 2.3842 5.0834	1.1314 0.9292 2.8796 5.2271	0.9117 0.8471 3.3925 5.3348
0.85	2.3167 0.0994 0.1178 1.3256	2.2623 0.2955 0.2448 2.1556	2.1745 0.4786 0.4492 3.0168	2.0560 0.6372 0.7256 3.7157	1.9098 0.7675 1.0664 4.2326	1.7401 0.8657 1.4620 4.6045	1.5516 0.9276 1.9015 4.8721	1.3493 0.9490 2.3734 5.0670	1.1375 0.9244 2.8673 5.2111	0.9183 0.8429 3.3789 5.3196
0.90	2.3176 0.0938 0.1160 1.3096	2.2636 0.2897 0.2419 2.1376	2.1763 0.4731 0.4454 2.9987	2.0583 0.6317 0.7207 3.6976	1.9128 0.7620 1.0601 4.2146	1.7439 0.8601 1.4541 4.5867	1.5562 0.9221 1.8919 4.8546	1.3546 0.9438 2.3621 5.0498	1.1436 0.9195 2.8545 5.1944	0.9248 0.8389 3.3650 5.3039
0.95	2.3186 0.0877 0.1137 1.2914	2.2650 0.2839 0.2388 2.1179	2.1781 0.4675 0.4414 2.9793	2.0607 0.6262 0.7154 3.6785	1.9158 0.7564 1.0534 4.1956	1.7477 0.8545 1.4458 4.5679	1.5608 0.9166 1.8818 4.8361	1.3600 0.9385 2.3502 5.0318	1.1496 0.9148 2.8412 5.1771	0.9312 0.8350 3.3507 5.2879
1.00	2.3198 0.0807 0.1110 1.2693	2.2664 0.2778 0.2355 2.0968	2.1800 0.4619 0.4371 2.9585	2.0631 0.6206 0.7099 3.6580	1.9189 0.7508 1.0463 4.1755	1.7515 0.8489 1.4370 4.5480	1.5654 0.9111 1.8713 4.8167	1.3653 0.9333 2.3381 5.0130	1.1556 0.9101 2.8274 5.1592	0.9376 0.8312 3.3361 5.2714
F_x	0.1680	0.2408	0.3320	0.4354	0.5520	0.6854	0.8429	1.0372	1.2940	1.6793

TABLES OF THREE-DIMENSIONAL FLOW AROUND CONES

$$M_{\infty} = 2, \beta_K = 10^\circ, \alpha = 2^\circ 30'$$

ξ	θ								
	00°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.00	1.5085	1.5088	1.5099	1.5117	1.5141	1.5171	1.5205	1.5242	1.5280
	0.2660	0.2661	0.2662	0.2690	0.2670	0.2675	0.2681	0.2688	0.2694
	0.0000	0.0216	0.0424	0.0618	0.0790	0.0935	0.1045	0.1117	0.1147
	0.6565	0.6555	0.6525	0.6477	0.6416	0.6344	0.6265	0.6186	0.6109
	1.2577	1.2563	1.2522	1.2457	1.2372	1.2273	1.2165	1.2054	1.1947
0.05	1.5151	1.5154	1.5164	1.5181	1.5204	1.5231	1.5263	1.5297	1.5333
	0.2305	0.2307	0.2312	0.2322	0.2334	0.2350	0.2369	0.2389	0.2412
	0.0000	0.0197	0.0386	0.0563	0.0719	0.0849	0.0948	0.1012	0.1037
	0.6550	0.6540	0.6512	0.6468	0.6409	0.6340	0.6266	0.6189	0.6113
	1.2557	1.2544	1.2505	1.2444	1.2364	1.2269	1.2165	1.2058	1.1953
0.10	1.5209	1.5213	1.5222	1.5238	1.5259	1.5285	1.5315	1.5347	1.5380
	0.2019	0.2022	0.2031	0.2045	0.2065	0.2089	0.2118	0.2150	0.2184
	0.0000	0.0182	0.0358	0.0521	0.0665	0.0785	0.0876	0.0933	0.0955
	0.6516	0.6507	0.6480	0.6438	0.6383	0.6317	0.6246	0.6172	0.6099
	1.2510	1.2498	1.2461	1.2403	1.2327	1.2237	1.2137	1.2035	1.1933
0.15	1.5262	1.5265	1.5275	1.5290	1.5310	1.5334	1.5362	1.5392	1.5424
	0.1783	0.1787	0.1798	0.1816	0.1842	0.1873	0.1910	0.1951	0.1995
	0.0000	0.0171	0.0336	0.0489	0.0624	0.0736	0.0821	0.0874	0.0894
	0.6471	0.6463	0.6437	0.6397	0.6345	0.6282	0.6214	0.6143	0.6073
	1.2449	1.2437	1.2402	1.2347	1.2274	1.2188	1.2094	1.1995	1.1897
0.20	1.5311	1.5314	1.5323	1.5337	1.5356	1.5379	1.5406	1.5435	1.5464
	0.1583	0.1587	0.1601	0.1623	0.1653	0.1690	0.1733	0.1782	0.1834
	0.0000	0.0163	0.0319	0.0464	0.0592	0.0698	0.0778	0.0828	0.0847
	0.6420	0.6412	0.6388	0.6350	0.6300	0.6241	0.6176	0.6108	0.6040
	1.2379	1.2368	1.2335	1.2282	1.2213	1.2131	1.2040	1.1945	1.1851
0.25	1.5357	1.5359	1.5368	1.5381	1.5399	1.5422	1.5447	1.5474	1.5502
	0.1410	0.1415	0.1431	0.1456	0.1490	0.1532	0.1581	0.1636	0.1695
	0.0000	0.0156	0.0306	0.0445	0.0567	0.0669	0.0745	0.0793	0.0810
	0.6366	0.6358	0.6336	0.6300	0.6252	0.6196	0.6133	0.6068	0.6003
	1.2304	1.2293	1.2262	1.2212	1.2146	1.2068	1.1981	1.1890	1.1799
0.30	1.5399	1.5402	1.5410	1.5423	1.5440	1.5461	1.5485	1.5511	1.5538
	0.1259	0.1265	0.1282	0.1309	0.1347	0.1394	0.1448	0.1508	0.1572
	0.0000	0.0150	0.0295	0.0429	0.0547	0.0645	0.0718	0.0764	0.0781
	0.6310	0.6303	0.6282	0.6247	0.6202	0.6148	0.6088	0.6026	0.5964
	1.2227	1.2217	1.2187	1.2139	1.2076	1.2001	1.1916	1.1831	1.1743
0.35	1.5440	1.5443	1.5450	1.5463	1.5479	1.5499	1.5522	1.5547	1.5573
	0.1124	0.1131	0.1149	0.1179	0.1220	0.1270	0.1329	0.1394	0.1463
	0.0000	0.0146	0.0287	0.0417	0.0531	0.0626	0.0697	0.0742	0.0758
	0.6254	0.6247	0.6226	0.6193	0.6150	0.6099	0.6042	0.5982	0.5922
	1.2148	1.2139	1.2110	1.2065	1.2004	1.1933	1.1853	1.1769	1.1685
0.40	1.5479	1.5481	1.5489	1.5501	1.5516	1.5536	1.5558	1.5582	1.5606
	0.1003	0.1010	0.1029	0.1061	0.1105	0.1159	0.1222	0.1291	0.1364
	0.0000	0.0142	0.0279	0.0406	0.0518	0.0610	0.0680	0.0723	0.0739
	0.6196	0.6190	0.6170	0.6139	0.6098	0.6048	0.5994	0.5937	0.5880
	1.2069	1.2059	1.2032	1.1989	1.1931	1.1862	1.1786	1.1706	1.1625
0.45	1.5516	1.5519	1.5526	1.5537	1.5553	1.5571	1.5592	1.5615	1.5639
	0.0893	0.0900	0.0921	0.0954	0.1001	0.1058	0.1124	0.1197	0.1274
	0.0000	0.0139	0.0274	0.0398	0.0507	0.0598	0.0666	0.0709	0.0724
	0.6139	0.6132	0.6114	0.6084	0.6045	0.5998	0.5946	0.5891	0.5836
	1.1989	1.1980	1.1954	1.1912	1.1857	1.1791	1.1718	1.1641	1.1563
0.50	1.5553	1.5555	1.5562	1.5573	1.5588	1.5606	1.5626	1.5648	1.5670
	0.0791	0.0798	0.0820	0.0856	0.0904	0.0964	0.1033	0.1110	0.1191
	0.0000	0.0137	0.0269	0.0391	0.0499	0.0588	0.0654	0.0696	0.0712
	0.6081	0.6075	0.6057	0.6029	0.5991	0.5946	0.5897	0.5844	0.5791
	1.1908	1.1900	1.1875	1.1835	1.1782	1.1719	1.1649	1.1575	1.1500

$$M_{\infty} = 2, \beta_{\kappa} = 10^{\circ}, \alpha = 2^{\circ}30'$$

ξ	ϑ								
	00°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.55	1.5589 0.0696 0.0000 0.6023 1.1827	1.5591 0.0704 0.0135 0.6017 1.1819	1.5598 0.0727 0.0265 0.6000 1.1795	1.5608 0.0764 0.0386 0.5973 1.1757	1.5622 0.0815 0.0492 0.5937 1.1706	1.5640 0.0877 0.0579 0.5894 1.1646	1.5659 0.0949 0.0645 0.5847 1.1579	1.5680 0.1029 0.0687 0.5797 1.1508	1.5702 0.1113 0.0702 0.5746 1.1436
0.60	1.5625 0.0607 0.0000 0.5964 1.1744	1.5627 0.0615 0.0133 0.5959 1.1737	1.5633 0.0638 0.0262 0.5943 1.1714	1.5643 0.0677 0.0381 0.5917 1.1677	1.5657 0.0730 0.0486 0.5883 1.1629	1.5673 0.0795 0.0572 0.5842 1.1571	1.5692 0.0869 0.0638 0.5796 1.1507	1.5712 0.0952 0.0679 0.5748 1.1439	1.5733 0.1039 0.0694 0.5700 1.1370
0.65	1.5660 0.0521 0.0000 0.5905 1.1660	1.5662 0.0530 0.0132 0.5900 1.1653	1.5668 0.0554 0.0260 0.5884 1.1631	1.5678 0.0594 0.0377 0.5860 1.1597	1.5691 0.0649 0.0481 0.5827 1.1550	1.5707 0.0716 0.0567 0.5788 1.1495	1.5725 0.0793 0.0632 0.5744 1.1433	1.5744 0.0878 0.0672 0.5698 1.1368	1.5764 0.0968 0.0687 0.5652 1.1302
0.70	1.5696 0.0439 0.0000 0.5844 1.1574	1.5698 0.0448 0.0131 0.5839 1.1567	1.5704 0.0473 0.0258 0.5824 1.1547	1.5713 0.0515 0.0375 0.5801 1.1513	1.5726 0.0571 0.0478 0.5770 1.1469	1.5741 0.0640 0.0563 0.5732 1.1416	1.5758 0.0720 0.0627 0.5691 1.1357	1.5777 0.0807 0.0667 0.5647 1.1295	1.5796 0.0900 0.0682 0.5603 1.1232
0.75	1.5733 0.0358 0.0000 0.5781 1.1485	1.5735 0.0367 0.0130 0.5776 1.1478	1.5740 0.0393 0.0256 0.5762 1.1459	1.5750 0.0436 0.0372 0.5740 1.1427	1.5762 0.0494 0.0475 0.5710 1.1385	1.5776 0.0565 0.0560 0.5675 1.1334	1.5793 0.0647 0.0623 0.5635 1.1278	1.5811 0.0737 0.0663 0.5594 1.1218	1.5829 0.0832 0.0678 0.5552 1.1158
0.80	1.5771 0.0278 0.0000 0.5715 1.1391	1.5773 0.0287 0.0130 0.5710 1.1385	1.5778 0.0314 0.0255 0.5697 1.1366	1.5787 0.0358 0.0371 0.5676 1.1336	1.5799 0.0417 0.0473 0.5648 1.1296	1.5813 0.0491 0.0557 0.5614 1.1248	1.5829 0.0575 0.0621 0.5577 1.1194	1.5846 0.0667 0.0661 0.5537 1.1137	1.5854 0.0765 0.0676 0.5497 1.1080
0.85	1.5812 0.0196 0.0000 0.5644 1.1291	1.5814 0.0205 0.0130 0.5640 1.1284	1.5819 0.0233 0.0255 0.5628 1.1267	1.5827 0.0278 0.0370 0.5607 1.1238	1.5838 0.0339 0.0472 0.5581 1.1200	1.5852 0.0414 0.0556 0.5549 1.1154	1.5867 0.0501 0.0619 0.5513 1.1103	1.5884 0.0595 0.0659 0.5476 1.1049	1.5901 0.0695 0.0674 0.5438 1.0995
0.90	1.5857 0.0109 0.0000 0.5566 1.1179	1.5858 0.0118 0.0130 0.5562 1.1173	1.5863 0.0147 0.0254 0.5550 1.1156	1.5871 0.0193 0.0370 0.5532 1.1129	1.5882 0.0256 0.0472 0.5506 1.1093	1.5895 0.0333 0.0556 0.5476 1.1050	1.5910 0.0421 0.0619 0.5443 1.1001	1.5926 0.0519 0.0659 0.5407 1.0950	1.5942 0.0621 0.0674 0.5372 1.0899
0.95	1.5909 0.0011 0.0000 0.5475 1.1048	1.5910 0.0021 0.0130 0.5471 1.1042	1.5915 0.0050 0.0255 0.5460 1.1026	1.5923 0.0098 0.0370 0.5442 1.1001	1.5933 0.0162 0.0472 0.5419 1.0966	1.5946 0.0241 0.0557 0.5390 1.0926	1.5960 0.0332 0.0620 0.5359 1.0880	1.5975 0.0431 0.0660 0.5326 1.0832	1.5991 0.0535 0.0675 0.5292 1.0783
1.00	1.5978 0.0115 0.0000 0.5353 1.0871	1.5980 0.0105 0.0131 0.5349 1.0865	1.5985 0.0075 0.0256 0.5339 1.0850	1.5992 0.0027 0.0373 0.5322 1.0826	1.6003 0.0039 0.0475 0.5299 1.0793	1.6015 0.0119 0.0560 0.5272 1.0754	1.6029 0.0211 0.0624 0.5242 1.0710	1.6045 0.0313 0.0664 0.5211 1.0664	1.6060 0.0419 0.0679 0.5179 1.0618
F_{π}	0.5624	0.5631	0.5655	0.5693	0.5746	0.5812	0.5889	0.5975	0.6067

$$M_{\infty} = 2, \beta_k = 10^\circ, \alpha = 2^\circ 30'$$

ξ	θ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.00	1.5319	1.5357	1.5391	1.5422	1.5447	1.5466	1.5477	1.5482	1.5481
	0.2701	0.2708	0.2714	0.2719	0.2724	0.2727	0.2729	0.2730	0.2730
	0.1132	0.1073	0.0971	0.0829	0.0653	0.0451	0.0230	0.0000	0.0000
	0.6038	0.5976	0.5923	0.5882	0.5850	0.5829	0.5816	0.5812	0.5812
0.05	1.1848	1.1760	1.1687	1.1628	1.1584	1.1553	1.1535	1.1530	1.1530
	1.5369	1.5403	1.5435	1.5463	1.5486	1.5503	1.5514	1.5517	1.5517
	0.2435	0.2458	0.2481	0.2501	0.2518	0.2530	0.2538	0.2541	0.2541
	0.1022	0.0966	0.0873	0.0744	0.0586	0.0404	0.0206	0.0000	0.0000
0.10	0.6043	0.5980	0.5927	0.5882	0.5849	0.5825	0.5811	0.5806	0.5806
	1.1855	1.1767	1.1691	1.1629	1.1581	1.1548	1.1528	1.1521	1.1521
	1.5414	1.5446	1.5476	1.5501	1.5522	1.5538	1.5548	1.5551	1.5551
	0.2220	0.2255	0.2289	0.2320	0.2346	0.2365	0.2377	0.2382	0.2382
0.15	0.0940	0.0888	0.0801	0.0683	0.0537	0.0370	0.0189	0.0000	0.0000
	0.6030	0.5968	0.5914	0.5870	0.5835	0.5810	0.5796	0.5791	0.5791
	1.1837	1.1750	1.1674	1.1611	1.1562	1.1527	1.1506	1.1499	1.1499
	1.5455	1.5485	1.5513	1.5537	1.5557	1.5571	1.5580	1.5583	1.5583
0.20	0.2040	0.2085	0.2128	0.2167	0.2199	0.2224	0.2239	0.2245	0.2245
	0.0879	0.0830	0.0748	0.0637	0.0501	0.0346	0.0176	0.0000	0.0000
	0.6006	0.5945	0.5893	0.5848	0.5814	0.5789	0.5774	0.5769	0.5769
	1.1803	1.1718	1.1643	1.1581	1.1532	1.1497	1.1476	1.1469	1.1469
0.25	1.5194	1.5222	1.5248	1.5271	1.5290	1.5303	1.5312	1.5314	1.5314
	0.1187	0.1940	0.1990	0.2035	0.2073	0.2102	0.2119	0.2125	0.2125
	0.0332	0.0786	0.0708	0.0603	0.0474	0.0327	0.0167	0.0000	0.0000
	0.5976	0.5917	0.5865	0.5822	0.5788	0.5763	0.5748	0.5743	0.5743
0.30	1.1761	1.1678	1.1605	1.1544	1.1495	1.1460	1.1439	1.1432	1.1432
	1.5530	1.5557	1.5582	1.5603	1.5621	1.5634	1.5642	1.5644	1.5644
	0.1755	0.1814	0.1870	0.1920	0.1962	0.1991	0.2014	0.2020	0.2020
	0.0796	0.0751	0.0677	0.0577	0.0453	0.0313	0.0159	0.0000	0.0000
0.35	0.5941	0.5884	0.5834	0.5792	0.5758	0.5734	0.5720	0.5715	0.5715
	1.1712	1.1632	1.1561	1.1501	1.1454	1.1419	1.1399	1.1392	1.1392
	1.5565	1.5591	1.5614	1.5634	1.5651	1.5663	1.5671	1.5673	1.5673
	0.1638	0.1703	0.1764	0.1818	0.1864	0.1898	0.1919	0.1926	0.1926
0.40	0.0768	0.0724	0.0653	0.0556	0.0437	0.0301	0.0154	0.0000	0.0000
	0.5904	0.5849	0.5800	0.5759	0.5727	0.5703	0.5689	0.5684	0.5684
	1.1659	1.1582	1.1513	1.1455	1.1409	1.1375	1.1355	1.1348	1.1348
	1.5598	1.5623	1.5645	1.5665	1.5680	1.5692	1.5699	1.5702	1.5702
0.45	0.1534	0.1603	0.1668	0.1726	0.1775	0.1811	0.1834	0.1842	0.1842
	0.0745	0.0703	0.0634	0.0540	0.0424	0.0292	0.0149	0.0000	0.0000
	0.5865	0.5812	0.5765	0.5725	0.5694	0.5671	0.5657	0.5652	0.5652
	1.1604	1.1529	1.1463	1.1406	1.1361	1.1329	1.1309	1.1302	1.1302
0.50	1.5631	1.5654	1.5675	1.5694	1.5709	1.5720	1.5727	1.5729	1.5729
	0.1439	0.1513	0.1582	0.1643	0.1694	0.1732	0.1756	0.1764	0.1764
	0.0727	0.0686	0.0618	0.0526	0.0414	0.0285	0.0146	0.0000	0.0000
	0.5824	0.5773	0.5728	0.5690	0.5659	0.5637	0.5624	0.5619	0.5619
0.55	1.1547	1.1475	1.1410	1.1356	1.1312	1.1280	1.1261	1.1255	1.1255
	1.5662	1.5684	1.5705	1.5723	1.5737	1.5748	1.5754	1.5756	1.5756
	0.1353	0.1430	0.1502	0.1566	0.1620	0.1660	0.1685	0.1693	0.1693
	0.0712	0.0672	0.0606	0.0516	0.0406	0.0280	0.0143	0.0000	0.0000
0.60	0.5783	0.5734	0.5690	0.5653	0.5624	0.5602	0.5589	0.5585	0.5585
	1.1488	1.1419	1.1356	1.1304	1.1261	1.1231	1.1212	1.1206	1.1206
	1.5693	1.5714	1.5734	1.5751	1.5765	1.5775	1.5781	1.5783	1.5783
	0.1273	0.1353	0.1428	0.1495	0.1551	0.1592	0.1618	0.1627	0.1627
0.65	0.0700	0.0660	0.0596	0.0507	0.0399	0.0275	0.0140	0.0000	0.0000
	0.5741	0.5693	0.5651	0.5616	0.5587	0.5566	0.5554	0.5550	0.5550
	1.1438	1.1361	1.1301	1.1257	1.1209	1.1180	1.1162	1.1156	1.1156
	1.5714	1.5734	1.5751	1.5765	1.5775	1.5781	1.5783	1.5783	1.5783

$$M_{\infty} = 2, \beta_{\kappa} = 10^{\circ}, \alpha = 2^{\circ}30'$$

ξ	η								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.55	1.5723 0.1198 0.0690 0.5697 1.1367	1.5744 0.1281 0.0651 0.5652 1.1302	1.5763 0.1359 0.0587 0.5612 1.1244	1.5779 0.1428 0.0500 0.5577 1.1195	1.5792 0.1486 0.0394 0.5550 1.1156	1.5802 0.1529 0.0271 0.5530 1.1127	1.5808 0.1555 0.0138 0.5518 1.1110	1.5810 0.1564 0.0000 0.5514 1.1104	
0.60	1.5754 0.1127 0.0682 0.5653 1.1303	1.5773 0.1213 0.0644 0.5610 1.1241	1.5791 0.1293 0.0581 0.5571 1.1186	1.5807 0.1365 0.0495 0.5538 1.1138	1.5820 0.1424 0.0389 0.5511 1.1100	1.5829 0.1468 0.0268 0.5492 1.1073	1.5835 0.1496 0.0137 0.5480 1.1056	1.5837 0.1505 0.0000 0.5477 1.1050	
0.65	1.5784 0.1059 0.0676 0.5607 1.1238	1.5803 0.1148 0.0638 0.5566 1.1179	1.5821 0.1231 0.0575 0.5529 1.1125	1.5836 0.1304 0.0490 0.5497 1.1080	1.5848 0.1365 0.0386 0.5472 1.1043	1.5857 0.1410 0.0266 0.5453 1.1017	1.5862 0.1438 0.0136 0.5442 1.1000	1.5864 0.1448 0.0000 0.5438 1.0995	
0.70	1.5816 0.0993 0.0671 0.5560 1.1171	1.5834 0.1084 0.0633 0.5520 1.1113	1.5850 0.1168 0.0571 0.5485 1.1062	1.5865 0.1245 0.0487 0.5455 1.1018	1.5877 0.1307 0.0383 0.5430 1.0983	1.5885 0.1354 0.0264 0.5413 1.0958	1.5890 0.1383 0.0135 0.5402 1.0942	1.5892 0.1392 0.0000 0.5398 1.0937	
0.75	1.5848 0.0928 0.0667 0.5511 1.1100	1.5865 0.1022 0.0630 0.5473 1.1045	1.5881 0.1109 0.0568 0.5439 1.0996	1.5895 0.1186 0.0484 0.5410 1.0954	1.5906 0.1250 0.0381 0.5387 1.0920	1.5914 0.1298 0.0263 0.5370 1.0896	1.5920 0.1327 0.0134 0.5360 1.0881	1.5921 0.1337 0.0000 0.5356 1.0876	
0.80	1.5881 0.0863 0.0664 0.5458 1.1024	1.5898 0.0959 0.0628 0.5422 1.0972	1.5913 0.1048 0.0566 0.5390 1.0925	1.5927 0.1127 0.0482 0.5362 1.0885	1.5937 0.1192 0.0380 0.5340 1.0853	1.5945 0.1241 0.0262 0.5324 1.0830	1.5950 0.1271 0.0134 0.5314 1.0816	1.5952 0.1282 0.0000 0.5311 1.0811	
0.85	1.5918 0.0796 0.0663 0.5401 1.0942	1.5934 0.0894 0.0626 0.5367 1.0892	1.5948 0.0985 0.0565 0.5336 1.0847	1.5961 0.1066 0.0481 0.5310 1.0810	1.5971 0.1133 0.0379 0.5289 1.0779	1.5979 0.1183 0.0261 0.5274 1.0757	1.5984 0.1213 0.0133 0.5265 1.0744	1.5986 0.1224 0.0000 0.5262 1.0739	
0.90	1.5958 0.0724 0.0663 0.5337 1.0848	1.5973 0.0824 0.0626 0.5305 1.0802	1.5987 0.0917 0.0565 0.5276 1.0760	1.5999 0.1000 0.0481 0.5251 1.0724	1.6009 0.1068 0.0379 0.5232 1.0695	1.6017 0.1119 0.0261 0.5217 1.0674	1.6021 0.1151 0.0133 0.5209 1.0661	1.6022 0.1161 0.0000 0.5206 1.0657	
0.95	1.6006 0.0641 0.0664 0.5260 1.0736	1.6021 0.0743 0.0627 0.5229 1.0692	1.6034 0.0839 0.0566 0.5202 1.0652	1.6046 0.0923 0.0482 0.5180 1.0619	1.6055 0.0993 0.0379 0.5161 1.0592	1.6062 0.1045 0.0262 0.5148 1.0572	1.6067 0.1077 0.0134 0.5140 1.0560	1.6068 0.1088 0.0000 0.5137 1.0556	
1.00	1.6076 0.0526 0.0668 0.5148 1.0572	1.6090 0.0631 0.0631 0.5119 1.0530	1.6104 0.0728 0.0570 0.5094 1.0493	1.6115 0.0813 0.0485 0.5072 1.0461	1.6125 0.0884 0.0382 0.5055 1.0435	1.6131 0.0938 0.0264 0.5042 1.0417	1.6136 0.0970 0.0134 0.5035 1.0406	1.6138 0.0982 0.0000 0.5032 1.0402	
F_x	0.6162	0.6256	0.6346	0.6426	0.6494	0.6546	0.6578	0.6588	

$$M_{\infty} = 2, \beta_{\kappa} = 15^{\circ}, \alpha = 5^{\circ}$$

ξ	η								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.00	1.3786	1.3796	1.3823	1.3867	1.3927	1.4001	1.4086	1.4180	1.4279
	0.3694	0.3697	0.3704	0.3716	0.3732	0.3751	0.3774	0.3799	0.3826
	0.0000	0.0365	0.0719	0.1051	0.1352	0.1611	0.1816	0.1959	0.2029
	0.8674	0.8643	0.8553	0.8410	0.8223	0.8006	0.7772	0.7535	0.7309
	1.5322	1.5283	1.5169	1.4987	1.4749	1.4469	1.4166	1.3856	1.3558
0.05	1.3871	1.3880	1.3907	1.3950	1.4009	1.4081	1.4165	1.4257	1.4355
	0.3388	0.3391	0.3402	0.3418	0.3441	0.3470	0.3503	0.3541	0.3582
	0.0000	0.0346	0.0682	0.0997	0.1281	0.1523	0.1715	0.1846	0.1908
	0.8661	0.8631	0.8544	0.8406	0.8226	0.8016	0.7788	0.7557	0.7334
	1.5305	1.5268	1.5159	1.4984	1.4756	1.4487	1.4193	1.3893	1.3601
0.10	1.3950	1.3958	1.3984	1.4027	1.4084	1.4155	1.4236	1.4325	1.4419
	0.3120	0.3125	0.3137	0.3159	0.3188	0.3224	0.3267	0.3316	0.3369
	0.0000	0.0331	0.0651	0.0951	0.1220	0.1450	0.1629	0.1751	0.1808
	0.8627	0.8599	0.8515	0.8381	0.8207	0.8003	0.7782	0.7556	0.7337
	1.5262	1.5227	1.5121	1.4953	1.4732	1.4471	1.4186	1.3893	1.3606
0.15	1.4023	1.4032	1.4057	1.4098	1.4154	1.4223	1.4302	1.4389	1.4480
	0.2883	0.2888	0.2904	0.2929	0.2964	0.3008	0.3059	0.3118	0.3181
	0.0000	0.0317	0.0624	0.0912	0.1169	0.1388	0.1558	0.1673	0.1724
	0.8579	0.8551	0.8470	0.8341	0.8173	0.7975	0.7760	0.7539	0.7324
	1.5201	1.5167	1.5065	1.4902	1.4688	1.4435	1.4158	1.3872	1.3590
0.20	1.4093	1.4101	1.4126	1.4166	1.4221	1.4288	1.4365	1.4449	1.4537
	0.2670	0.2676	0.2694	0.2723	0.2763	0.2814	0.2873	0.2941	0.3014
	0.0000	0.0306	0.0602	0.0878	0.1126	0.1335	0.1497	0.1606	0.1654
	0.8520	0.8493	0.8415	0.8290	0.8127	0.7935	0.7725	0.7510	0.7299
	1.5126	1.5093	1.4994	1.4837	1.4629	1.4384	1.4114	1.3834	1.3558
0.25	1.4159	1.4167	1.4192	1.4231	1.4284	1.4349	1.4424	1.4506	1.4591
	0.2478	0.2481	0.2504	0.2537	0.2582	0.2639	0.2705	0.2781	0.2862
	0.0000	0.0296	0.0582	0.0850	0.1089	0.1290	0.1446	0.1550	0.1594
	0.8453	0.8427	0.8352	0.8231	0.8072	0.7886	0.7682	0.7472	0.7266
	1.5042	1.5009	1.4914	1.4761	1.4560	1.4321	1.4058	1.3785	1.3514
0.30	1.4223	1.4231	1.4255	1.4293	1.4345	1.4408	1.4481	1.4561	1.4644
	0.2301	0.2309	0.2331	0.2367	0.2417	0.2479	0.2552	0.2635	0.2724
	0.0000	0.0288	0.0566	0.0825	0.1057	0.1252	0.1402	0.1501	0.1544
	0.8381	0.8356	0.8282	0.8165	0.8012	0.7831	0.7633	0.7428	0.7226
	1.4950	1.4918	1.4826	1.4677	1.4482	1.4250	1.3993	1.3726	1.3461
0.35	1.4285	1.4292	1.4315	1.4353	1.4403	1.4465	1.4536	1.4614	1.4695
	0.2139	0.2147	0.2171	0.2210	0.2264	0.2332	0.2411	0.2500	0.2596
	0.0000	0.0280	0.0551	0.0804	0.1029	0.1219	0.1364	0.1460	0.1501
	0.8304	0.8280	0.8209	0.8095	0.7946	0.7770	0.7577	0.7378	0.7180
	1.4852	1.4821	1.4731	1.4587	1.4397	1.4171	1.3921	1.3661	1.3401
0.40	1.4344	1.4352	1.4374	1.4411	1.4460	1.4521	1.4590	1.4665	1.4744
	0.1988	0.1997	0.2023	0.2065	0.2123	0.2195	0.2280	0.2376	0.2478
	0.0000	0.0274	0.0539	0.0786	0.1005	0.1190	0.1332	0.1425	0.1464
	0.8223	0.8200	0.8131	0.8021	0.7877	0.7706	0.7518	0.7323	0.7130
	1.4749	1.4719	1.4632	1.4492	1.4307	1.4087	1.3843	1.3589	1.3334
0.45	1.4402	1.4410	1.4432	1.4467	1.4516	1.4575	1.4643	1.4716	1.4793
	0.1847	0.1856	0.1884	0.1929	0.1991	0.2068	0.2158	0.2259	0.2367
	0.0000	0.0269	0.0528	0.0770	0.0985	0.1165	0.1303	0.1394	0.1432
	0.8140	0.8118	0.8051	0.7944	0.7804	0.7638	0.7455	0.7265	0.7077
	1.4612	1.4614	1.4529	1.4393	1.4213	1.3998	1.3761	1.3512	1.3263
0.50	1.4460	1.4467	1.4488	1.4523	1.4570	1.4628	1.4694	1.4766	1.4841
	0.1714	0.1724	0.1753	0.1801	0.1866	0.1947	0.2042	0.2149	0.2262
	0.0000	0.0264	0.0519	0.0756	0.0967	0.1144	0.1279	0.1368	0.1404
	0.8054	0.8033	0.7968	0.7864	0.7728	0.7567	0.7389	0.7204	0.7020
	1.4532	1.4504	1.4422	1.4289	1.4114	1.3906	1.3674	1.3431	1.3186

$$M_{\infty} = 2, \beta_{\kappa} = 15^{\circ}, \alpha = 5^{\circ}$$

ξ	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.55	1.4516 0.1588 0.0000 0.7966 1.4418	1.4523 0.1598 0.0260 0.7945 1.4391	1.4544 0.1629 0.0511 0.7882 1.4311	1.4578 0.1679 0.0744 0.7782 1.4182	1.4624 0.1747 0.0951 0.7650 1.4012	1.4681 0.1833 0.1125 0.7493 1.3809	1.4745 0.1933 0.1258 0.7320 1.3583	1.4816 0.2044 0.1345 0.7140 1.3345	1.4889 0.2163 0.1380 0.6960 1.3106
0.60	1.4572 0.1467 0.0000 0.7876 1.4301	1.4579 0.1478 0.0256 0.7855 1.4275	1.4599 0.1510 0.0504 0.7795 1.4197	1.4633 0.1562 0.0733 0.7697 1.4072	1.4678 0.1634 0.0938 0.7569 1.3906	1.4733 0.1724 0.1109 0.7417 1.3708	1.4796 0.1828 0.1239 0.7248 1.3487	1.4865 0.1944 0.1325 0.7073 1.3255	1.4937 0.2067 0.1360 0.6897 1.3022
0.65	1.4628 0.1350 0.0000 0.7783 1.4180	1.4635 0.1362 0.0253 0.7763 1.4155	1.4655 0.1395 0.0497 0.7704 1.4079	1.4687 0.1450 0.0724 0.7610 1.3957	1.4732 0.1525 0.0926 0.7485 1.3796	1.4785 0.1618 0.1095 0.7337 1.3603	1.4847 0.1726 0.1224 0.7174 1.3388	1.4915 0.1847 0.1307 0.7003 1.3161	1.4985 0.1975 0.1342 0.6831 1.2933
0.70	1.4684 0.1237 0.0000 0.7687 1.4055	1.4691 0.1249 0.0250 0.7668 1.4031	1.4710 0.1284 0.0492 0.7611 1.3957	1.4742 0.1341 0.0717 0.7519 1.3839	1.4786 0.1419 0.0916 0.7398 1.3682	1.4838 0.1515 0.1083 0.7255 1.3494	1.4899 0.1627 0.1210 0.7096 1.3284	1.4965 0.1752 0.1293 0.6929 1.3063	1.5034 0.1885 0.1326 0.6762 1.2839
0.75	1.4741 0.1126 0.0000 0.7588 1.3926	1.4748 0.1139 0.0248 0.7569 1.3902	1.4767 0.1175 0.0488 0.7514 1.3830	1.4798 0.1234 0.0710 0.7426 1.3715	1.4841 0.1315 0.0907 0.7308 1.3562	1.4892 0.1415 0.1072 0.7169 1.3379	1.4952 0.1530 0.1198 0.7014 1.3175	1.5016 0.1659 0.1280 0.6852 1.2959	1.5084 0.1796 0.1313 0.6689 1.2740
0.80	1.4800 0.1017 0.0000 0.7485 1.3790	1.4806 0.1029 0.0246 0.7467 1.3767	1.4825 0.1067 0.0484 0.7413 1.3697	1.4855 0.1128 0.0705 0.7327 1.3586	1.4897 0.1211 0.0900 0.7214 1.3437	1.4948 0.1314 0.1064 0.7079 1.3259	1.5006 0.1434 0.1189 0.6928 1.3059	1.5069 0.1566 0.1270 0.6770 1.2848	1.5136 0.1705 0.1303 0.6611 1.2634
0.85	1.4860 0.0906 0.0000 0.7376 1.3647	1.4866 0.0919 0.0245 0.7359 1.3624	1.4885 0.0958 0.0481 0.7307 1.3557	1.4915 0.1021 0.0700 0.7224 1.3448	1.4955 0.1107 0.0895 0.7114 1.3304	1.5005 0.1213 0.1057 0.6983 1.3130	1.5062 0.1336 0.1181 0.6837 1.2936	1.5125 0.1472 0.1261 0.6683 1.2730	1.5190 0.1616 0.1294 0.6528 1.2520
0.90	1.4924 0.0794 0.0000 0.7261 1.3494	1.4930 0.0807 0.0244 0.7244 1.3472	1.4948 0.0847 0.0479 0.7194 1.3407	1.4977 0.0912 0.0697 0.7114 1.3301	1.5017 0.1001 0.0890 0.7007 1.3160	1.5066 0.1110 0.1051 0.6880 1.2992	1.5122 0.1236 0.1174 0.6738 1.2802	1.5184 0.1375 0.1254 0.6588 1.2601	1.5248 0.1522 0.1287 0.6437 1.2395
0.95	1.4992 0.0677 0.0000 0.7136 1.3328	1.4998 0.0691 0.0243 0.7119 1.3306	1.5016 0.0732 0.0477 0.7071 1.3242	1.5045 0.0799 0.0694 0.6993 1.3140	1.5083 0.0889 0.0887 0.6890 1.3003	1.5132 0.1001 0.1048 0.6766 1.2838	1.5188 0.1130 0.1170 0.6628 1.2653	1.5249 0.1272 0.1249 0.6482 1.2456	1.5313 0.1422 0.1282 0.6335 1.2254
1.00	1.5067 0.0551 0.0000 0.6996 1.3140	1.5073 0.0565 0.0242 0.6980 1.3119	1.5091 0.0607 0.0476 0.6933 1.3057	1.5120 0.0675 0.0693 0.6857 1.2957	1.5159 0.0768 0.0885 0.6757 1.2823	1.5207 0.0882 0.1045 0.6637 1.2662	1.5262 0.1013 0.1168 0.6502 1.2480	1.5323 0.1157 0.1247 0.6359 1.2286	1.5388 0.1308 0.1279 0.6214 1.2087
F_x	0.6081	0.6091	0.6124	0.6177	0.6251	0.6345	0.6457	0.6585	0.6725

$$M_{\infty} = 2, \beta_{\kappa} = 15^{\circ}, \alpha = 5^{\circ}$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.00	1.4379	1.4477	1.4568	1.4649	1.4716	1.4766	1.4797	1.4825	1.4807
	0.3853	0.3879	0.3904	0.3925	0.3943	0.3957	0.3965	0.3972	0.3968
	0.2022	0.1932	0.1762	0.1513	0.1199	0.0830	0.0425	0.0000	0.0000
	0.7104	0.6928	0.6785	0.6675	0.6596	0.6543	0.6514	0.6504	0.6504
	1.3285	1.3048	1.2856	1.2707	1.2599	1.2527	1.2488	1.2494	1.2474
0.05	1.4453	1.4549	1.4637	1.4716	1.4780	1.4828	1.4857	1.4867	
	0.3625	0.3668	0.3709	0.3747	0.3779	0.3804	0.3819	0.3824	
	0.1898	0.1809	0.1646	0.1411	0.1117	0.0772	0.0395	0.0000	
	0.7130	0.6952	0.6805	0.6689	0.6603	0.6544	0.6511	0.6500	
	1.3331	1.3095	1.2898	1.2742	1.2627	1.2547	1.2503	1.2487	
0.10	1.4514	1.4606	1.4690	1.4765	1.4825	1.4871	1.4888	1.4908	
	0.3425	0.3481	0.3536	0.3586	0.3629	0.3662	0.3682	0.3689	
	0.1794	0.1708	0.1551	0.1328	0.1050	0.0725	0.0370	0.0000	
	0.7135	0.6957	0.6807	0.6687	0.6598	0.6535	0.6499	0.6486	
	1.3340	1.3103	1.2903	1.2741	1.2620	1.2535	1.2486	1.2469	
0.15	1.4571	1.4659	1.4740	1.4812	1.4870	1.4913	1.4940	1.4949	
	0.3248	0.3316	0.3382	0.3442	0.3493	0.3533	0.3556	0.3565	
	0.1709	0.1624	0.1474	0.1260	0.0995	0.0687	0.0351	0.0000	
	0.7125	0.6947	0.6797	0.6675	0.6583	0.6517	0.6479	0.6466	
	1.3327	1.3090	1.2889	1.2725	1.2600	1.2511	1.2459	1.2442	
0.20	1.4625	1.4710	1.4788	1.4857	1.4913	1.4955	1.4980	1.4989	
	0.3090	0.3168	0.3243	0.3312	0.3370	0.3415	0.3442	0.3452	
	0.1638	0.1555	0.1410	0.1205	0.0951	0.0656	0.0335	0.0000	
	0.7103	0.6927	0.6777	0.6654	0.6560	0.6494	0.6454	0.6441	
	1.3298	1.3064	1.2863	1.2697	1.2569	1.2479	1.2425	1.2407	
0.25	1.4677	1.4759	1.4835	1.4901	1.4955	1.4995	1.5021	1.5029	
	0.2914	0.3034	0.3117	0.3193	0.3257	0.3307	0.3335	0.3346	
	0.1578	0.1497	0.1356	0.1158	0.0914	0.0630	0.0322	0.0000	
	0.7073	0.6899	0.6750	0.6627	0.6532	0.6465	0.6425	0.6411	
	1.3258	1.3026	1.2826	1.2660	1.2531	1.2439	1.2384	1.2365	
0.30	1.4727	1.4807	1.4880	1.4945	1.4997	1.5036	1.5060	1.5068	
	0.2817	0.2911	0.3001	0.3083	0.3153	0.3206	0.3237	0.3249	
	0.1527	0.1448	0.1311	0.1120	0.0883	0.0609	0.0311	0.0000	
	0.7036	0.6864	0.6717	0.6594	0.6500	0.6432	0.6391	0.6378	
	1.3209	1.2980	1.2781	1.2615	1.2487	1.2394	1.2338	1.2319	
0.35	1.4775	1.4853	1.4925	1.4987	1.5038	1.5076	1.5100	1.5108	
	0.2697	0.2797	0.2894	0.2982	0.3056	0.3113	0.3145	0.3157	
	0.1483	0.1406	0.1273	0.1087	0.0857	0.0591	0.0301	0.0000	
	0.6994	0.6825	0.6679	0.6558	0.6463	0.6396	0.6355	0.6341	
	1.3153	1.2927	1.2730	1.2565	1.2437	1.2344	1.2287	1.2268	
0.40	1.4823	1.4899	1.4968	1.5029	1.5078	1.5115	1.5139	1.5147	
	0.2585	0.2691	0.2794	0.2886	0.2964	0.3024	0.3058	0.3071	
	0.1446	0.1371	0.1241	0.1059	0.0835	0.0575	0.0294	0.0000	
	0.6948	0.6782	0.6638	0.6517	0.6424	0.6356	0.6315	0.6301	
	1.3091	1.2868	1.2674	1.2510	1.2382	1.2290	1.2233	1.2214	
0.45	1.4870	1.4944	1.5011	1.5071	1.5119	1.5155	1.5178	1.5186	
	0.2480	0.2592	0.2700	0.2797	0.2878	0.2941	0.2976	0.2989	
	0.1414	0.1340	0.1213	0.1035	0.0817	0.0562	0.0287	0.0000	
	0.6898	0.6735	0.6593	0.6474	0.6381	0.6314	0.6273	0.6259	
	1.3024	1.2805	1.2613	1.2451	1.2324	1.2232	1.2174	1.2156	
0.50	1.4916	1.4988	1.5054	1.5112	1.5159	1.5195	1.5218	1.5225	
	0.2381	0.2498	0.2610	0.2711	0.2796	0.2861	0.2897	0.2911	
	0.1387	0.1314	0.1189	0.1015	0.0801	0.0551	0.0281	0.0000	
	0.6845	0.6685	0.6545	0.6428	0.6336	0.6270	0.6228	0.6215	
	1.2953	1.2737	1.2547	1.2387	1.2261	1.2170	1.2113	1.2094	

$$M_{\infty} = 2, \beta_{\kappa} = 15^{\circ}, \alpha = 5^{\circ}$$

ξ	η								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.55	1.4962 0.2286 0.1363 0.6789 1.2877	1.5033 0.2408 0.1291 0.6632 1.2665	1.5097 0.2525 0.1169 0.6494 1.2478	1.5154 0.2630 0.0997 0.6379 1.2320	1.5200 0.2718 0.0787 0.6289 1.2195	1.5235 0.2784 0.0542 0.6223 1.2105	1.5258 0.2821 0.0276 0.6181 1.2047	1.5265 0.2836 0.0000 0.6168 1.2029	
0.60	1.5008 0.2195 0.1342 0.6730 1.2797	1.5078 0.2322 0.1272 0.6576 1.2588	1.5141 0.2442 0.1151 0.6441 1.2405	1.5196 0.2551 0.0982 0.6327 1.2249	1.5241 0.2642 0.0775 0.6238 1.2126	1.5275 0.2710 0.0533 0.6173 1.2036	1.5298 0.2748 0.0272 0.6132 1.1978	1.5305 0.2763 0.0000 0.6119 1.1960	
0.65	1.5055 0.2107 0.1325 0.6668 1.2712	1.5123 0.2238 0.1255 0.6517 1.2508	1.5185 0.2362 0.1136 0.6385 1.2327	1.5239 0.2474 0.0970 0.6273 1.2173	1.5283 0.2567 0.0765 0.6185 1.2052	1.5316 0.2638 0.0526 0.6121 1.1963	1.5339 0.2676 0.0268 0.6080 1.1905	1.5346 0.2691 0.0000 0.6066 1.1887	
0.70	1.5103 0.2021 0.1310 0.6602 1.2624	1.5169 0.2156 0.1241 0.6454 1.2422	1.5230 0.2284 0.1123 0.6325 1.2245	1.5283 0.2398 0.0959 0.6215 1.2093	1.5326 0.2494 0.0756 0.6129 1.1974	1.5359 0.2566 0.0520 0.6066 1.1886	1.5382 0.2605 0.0265 0.6024 1.1828	1.5389 0.2621 0.0000 0.6011 1.1809	
0.75	1.5151 0.1936 0.1297 0.6533 1.2529	1.5217 0.2074 0.1229 0.6388 1.2331	1.5276 0.2205 0.1112 0.6261 1.2157	1.5329 0.2323 0.0949 0.6154 1.2007	1.5371 0.2421 0.0749 0.6069 1.1890	1.5403 0.2495 0.0515 0.6007 1.1803	1.5427 0.2534 0.0262 0.5965 1.1744	1.5433 0.2550 0.0000 0.5952 1.1726	
0.80	1.5202 0.1851 0.1286 0.6459 1.2427	1.5266 0.1992 0.1218 0.6318 1.2234	1.5325 0.2127 0.1103 0.6193 1.2062	1.5377 0.2246 0.0942 0.6087 1.1915	1.5418 0.2347 0.0743 0.6005 1.1800	1.5450 0.2422 0.0511 0.5944 1.1714	1.5474 0.2461 0.0260 0.5901 1.1654	1.5481 0.2477 0.0000 0.5888 1.1636	
0.85	1.5255 0.1764 0.1277 0.6379 1.2318	1.5319 0.1908 0.1210 0.6241 1.2127	1.5376 0.2046 0.1095 0.6119 1.1959	1.5428 0.2168 0.0935 0.6015 1.1814	1.5469 0.2270 0.0738 0.5934 1.1700	1.5500 0.2347 0.0507 0.5874 1.1616	1.5525 0.2386 0.0258 0.5831 1.1555	1.5532 0.2402 0.0000 0.5818 1.1537	
0.90	1.5313 0.1673 0.1270 0.6292 1.2197	1.5376 0.1820 0.1204 0.6156 1.2009	1.5433 0.1960 0.1090 0.6037 1.1844	1.5484 0.2084 0.0931 0.5935 1.1701	1.5524 0.2189 0.0734 0.5855 1.1589	1.5556 0.2267 0.0504 0.5796 1.1506	1.5582 0.2304 0.0257 0.5751 1.1442	1.5589 0.2320 0.0000 0.5738 1.1424	
0.95	1.5377 0.1575 0.1265 0.6192 1.2059	1.5440 0.1725 0.1199 0.6059 1.1874	1.5497 0.1866 0.1086 0.5942 1.1710	1.5548 0.1992 0.0928 0.5841 1.1568	1.5589 0.2098 0.0732 0.5763 1.1458	1.5620 0.2177 0.0502 0.5704 1.1375	1.5649 0.2212 0.0255 0.5656 1.1306	1.5656 0.2228 0.0000 0.5643 1.1287	
1.00	1.5453 0.1463 0.1263 0.6073 1.1892	1.5517 0.1613 0.1198 0.5941 1.1708	1.5576 0.1755 0.1085 0.5823 1.1542	1.5629 0.1880 0.0927 0.5722 1.1400	1.5670 0.1987 0.0732 0.5644 1.1289	1.5702 0.2066 0.0501 0.5585 1.1205	1.5737 0.2093 0.0255 0.5528 1.1123	1.5746 0.2108 0.0000 0.5513 1.1103	
F_x	0.6875	0.7027	0.7177	0.7315	0.7437	0.7528	0.7607	0.7625	

$$M_{\infty} = 2, \beta_{\kappa} = 15^{\circ}, \alpha = 10^{\circ}$$

ξ	θ								
	00°0'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.00	1.3113	1.3129	1.3178	1.3259	1.3370	1.3508	1.3669	1.3848	1.4041
	0.3514	0.3518	0.3531	0.3553	0.3583	0.3619	0.3663	0.3711	0.3762
	0.0000	0.0659	0.1306	0.1926	0.2503	0.3023	0.3463	0.3807	0.4025
	1.0153	1.0077	0.9852	0.9497	0.9039	0.8513	0.7957	0.7412	0.6914
	1.7097	1.7005	1.6733	1.6300	1.5735	1.5075	1.4365	1.3655	1.2993
0.05	1.3204	1.3220	1.3268	1.3348	1.3457	1.3593	1.3752	1.3930	1.4122
	0.3182	0.3188	0.3205	0.3235	0.3275	0.3327	0.3388	0.3459	0.3537
	0.0000	0.0630	0.1249	0.1839	0.2387	0.2876	0.3289	0.3605	0.3800
	1.0138	1.0065	0.9851	0.9512	0.9076	0.8574	0.8042	0.7519	0.7037
	1.7078	1.6985	1.6710	1.6273	1.5701	1.5033	1.4315	1.3588	1.2910
0.10	1.3289	1.3305	1.3352	1.3430	1.3537	1.3670	1.3825	1.3999	1.4185
	0.2890	0.2897	0.2918	0.2955	0.3006	0.3071	0.3150	0.3241	0.3342
	0.0000	0.0606	0.1199	0.1763	0.2285	0.2746	0.3132	0.3421	0.3594
	1.0097	1.0028	0.9823	0.9500	0.9082	0.8601	0.8091	0.7587	0.7120
	1.7029	1.6940	1.6677	1.6256	1.5708	1.5067	1.4377	1.3680	1.3026
0.15	1.3369	1.3384	1.3431	1.3507	1.3612	1.3742	1.3893	1.4061	1.4241
	0.2628	0.2636	0.2662	0.2706	0.2767	0.2846	0.2940	0.3050	0.3173
	0.0000	0.0585	0.1156	0.1698	0.2197	0.2636	0.2999	0.3267	0.3422
	1.0039	0.9973	0.9777	0.9467	0.9066	0.8604	0.8114	0.7627	0.7172
	1.6959	1.6874	1.6622	1.6221	1.5697	1.5084	1.4424	1.3756	1.3127
0.20	1.3444	1.3459	1.3505	1.3580	1.3682	1.3808	1.3956	1.4119	1.4292
	0.2391	0.2401	0.2431	0.2482	0.2553	0.2644	0.2754	0.2881	0.3022
	0.0000	0.0567	0.1119	0.1643	0.2123	0.2542	0.2887	0.3137	0.3279
	0.9968	0.9904	0.9716	0.9419	0.9034	0.8590	0.8117	0.7645	0.7203
	1.6874	1.6792	1.6552	1.6168	1.5668	1.5082	1.4450	1.3810	1.3204
0.25	1.3516	1.3531	1.3576	1.3649	1.3748	1.3872	1.4015	1.4174	1.4341
	0.2176	0.2187	0.2221	0.2279	0.2360	0.2462	0.2586	0.2729	0.2887
	0.0000	0.0551	0.1088	0.1595	0.2159	0.2462	0.2791	0.3027	0.3158
	0.9888	0.9826	0.9646	0.9360	0.8990	0.8562	0.8105	0.7648	0.7217
	1.6776	1.6698	1.6469	1.6102	1.5624	1.5063	1.4457	1.3842	1.3257
0.30	1.3585	1.3600	1.3644	1.3715	1.3812	1.3932	1.4071	1.4226	1.4388
	0.1978	0.1990	0.2028	0.2093	0.2182	0.2296	0.2433	0.2590	0.2765
	0.0000	0.0537	0.1061	0.1554	0.2003	0.2393	0.2709	0.2934	0.3055
	0.9800	0.9741	0.9567	0.9292	0.8935	0.8523	0.8081	0.7638	0.7218
	1.6669	1.6595	1.6375	1.6025	1.5567	1.5030	1.4447	1.3855	1.3289
0.35	1.3652	1.3666	1.3709	1.3779	1.3873	1.3990	1.4126	1.4276	1.4434
	0.1795	0.1808	0.1850	0.1921	0.2019	0.2144	0.2292	0.2463	0.2652
	0.0000	0.0526	0.1037	0.1518	0.1956	0.2334	0.2639	0.2854	0.2968
	0.9706	0.9649	0.9482	0.9217	0.8874	0.8475	0.8048	0.7618	0.7209
	1.6555	1.6484	1.6274	1.5939	1.5500	1.4984	1.4424	1.3853	1.3304
0.40	1.3717	1.3731	1.3772	1.3840	1.3933	1.4047	1.4178	1.4324	1.4478
	0.1624	0.1639	0.1684	0.1761	0.1867	0.2002	0.2162	0.2345	0.2547
	0.0000	0.0516	0.1017	0.1488	0.1915	0.2282	0.2578	0.2785	0.2893
	0.9608	0.9554	0.9393	0.9137	0.8806	0.8421	0.8008	0.7590	0.7191
	1.6436	1.6368	1.6167	1.5845	1.5423	1.4928	1.4388	1.3836	1.3304
0.45	1.3780	1.3793	1.3834	1.3900	1.3990	1.4101	1.4230	1.4372	1.4521
	0.1464	0.1480	0.1529	0.1611	0.1725	0.1869	0.2040	0.2235	0.2449
	0.0000	0.0507	0.0999	0.1461	0.1879	0.2238	0.2525	0.2726	0.2829
	0.9507	0.9454	0.9299	0.9053	0.8733	0.8371	0.7961	0.7555	0.7166
	1.6312	1.6247	1.6053	1.5745	1.5340	1.4863	1.4342	1.3808	1.3290
0.50	1.3842	1.3855	1.3894	1.3959	1.4047	1.4155	1.4280	1.4418	1.4563
	0.1312	0.1329	0.1382	0.1470	0.1592	0.1744	0.1926	0.2131	0.2357
	0.0000	0.0499	0.0984	0.1438	0.1848	0.2200	0.2480	0.2674	0.2773
	0.9402	0.9352	0.9202	0.8965	0.8656	0.8297	0.7909	0.7515	0.7135
	1.6184	1.6121	1.5936	1.5639	1.5249	1.4790	1.4287	1.3769	1.3266

$$M_{\infty} = 2, \beta_{\kappa} = 15^{\circ}, \alpha = 10^{\circ}$$

ξ	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.55	1.3902	1.3915	1.3954	1.4017	1.4102	1.4208	1.4330	1.4464	1.4605
	0.1169	0.1187	0.1243	0.1336	0.1465	0.1626	0.1817	0.2033	0.2269
	0.0000	0.0493	0.0971	0.1418	0.1822	0.2167	0.2441	0.2630	0.2725
	0.9295	0.9246	0.9102	0.8873	0.8575	0.8228	0.7852	0.7469	0.7099
	1.6051	1.5991	1.5813	1.5528	1.5153	1.4710	1.4224	1.3723	1.3232
0.60	1.3963	1.3975	1.4013	1.4074	1.4157	1.4260	1.4379	1.4510	1.4648
	0.1031	0.1050	0.1110	0.1208	0.1344	0.1513	0.1713	0.1939	0.2185
	0.0000	0.0487	0.0959	0.1401	0.1799	0.2138	0.2407	0.2591	0.2683
	0.9185	0.9138	0.8999	0.8779	0.8491	0.8155	0.7791	0.7419	0.7058
	1.5916	1.5858	1.5687	1.5412	1.5051	1.4623	1.4154	1.3667	1.3189
0.65	1.4023	1.4035	1.4071	1.4131	1.4212	1.4312	1.4428	1.4556	1.4690
	0.0899	0.0919	0.0982	0.1085	0.1227	0.1405	0.1614	0.1848	0.2103
	0.0000	0.0483	0.0950	0.1387	0.1779	0.2113	0.2377	0.2558	0.2647
	0.9073	0.9027	0.8894	0.8681	0.8403	0.8078	0.7726	0.7364	0.7012
	1.5776	1.5721	1.5556	1.5292	1.4944	1.4531	1.4077	1.3604	1.3139
0.70	1.4083	1.4094	1.4130	1.4188	1.4267	1.4364	1.4477	1.4602	1.4733
	0.0770	0.0792	0.0858	0.0966	0.1114	0.1299	0.1517	0.1760	0.2024
	0.0000	0.0479	0.0942	0.1374	0.1762	0.2092	0.2352	0.2529	0.2616
	0.8957	0.8914	0.8785	0.8580	0.8312	0.7998	0.7656	0.7305	0.6963
	1.5632	1.5579	1.5421	1.5167	1.4831	1.4432	1.3993	1.3534	1.3080
0.75	1.4143	1.4154	1.4189	1.4245	1.4322	1.4417	1.4527	1.4649	1.4777
	0.0645	0.0668	0.0736	0.0849	0.1004	0.1196	0.1422	0.1674	0.1946
	0.0000	0.0475	0.0935	0.1364	0.1748	0.2074	0.2331	0.2505	0.2589
	0.8838	0.8797	0.8673	0.8475	0.8217	0.7913	0.7583	0.7242	0.6908
	1.5484	1.5433	1.5281	1.5036	1.4713	1.4327	1.3902	1.3457	1.3014
0.80	1.4204	1.4215	1.4249	1.4304	1.4378	1.4471	1.4578	1.4697	1.4822
	0.0522	0.0545	0.0617	0.0735	0.0896	0.1095	0.1328	0.1588	0.1868
	0.0000	0.0473	0.0929	0.1355	0.1737	0.2059	0.2313	0.2484	0.2566
	0.8715	0.8676	0.8557	0.8366	0.8118	0.7824	0.7505	0.7174	0.6849
	1.5330	1.5281	1.5135	1.4899	1.4587	1.4216	1.3804	1.3371	1.2940
0.85	1.4267	1.4278	1.4311	1.4366	1.4439	1.4531	1.4637	1.4755	1.4880
	0.0399	0.0424	0.0498	0.0619	0.0785	0.0991	0.1231	0.1497	0.1782
	0.0000	0.0471	0.0925	0.1349	0.1728	0.2048	0.2299	0.2469	0.2551
	0.8588	0.8549	0.8433	0.8249	0.8007	0.7722	0.7410	0.7085	0.6766
	1.5169	1.5121	1.4979	1.4750	1.4447	1.4085	1.3682	1.3257	1.2832
0.90	1.4332	1.4343	1.4376	1.4430	1.4502	1.4593	1.4698	1.4816	1.4942
	0.0276	0.0302	0.0378	0.0503	0.0674	0.0885	0.1131	0.1403	0.1693
	0.0000	0.0469	0.0922	0.1344	0.1721	0.2039	0.2289	0.2457	0.2538
	0.8455	0.8415	0.8303	0.8125	0.7890	0.7613	0.7308	0.6990	0.6674
	1.5001	1.4953	1.4814	1.4592	1.4298	1.3944	1.3550	1.3132	1.2711
0.95	1.4400	1.4411	1.4442	1.4495	1.4566	1.4654	1.4757	1.4873	1.4996
	0.0151	0.0177	0.0257	0.0386	0.0563	0.0780	0.1033	0.1311	0.1608
	0.0000	0.0468	0.0919	0.1340	0.1715	0.2032	0.2279	0.2446	0.2525
	0.8313	0.8276	0.8168	0.7997	0.7771	0.7504	0.7209	0.6900	0.6594
	1.4821	1.4775	1.4642	1.4428	1.4144	1.3803	1.3421	1.3015	1.2604
1.00	1.4472	1.4483	1.4514	1.4565	1.4634	1.4720	1.4821	1.4935	1.5058
	0.0021	0.0048	0.0130	0.0264	0.0445	0.0669	0.0929	0.1214	0.1516
	0.0000	0.0467	0.0918	0.1338	0.1712	0.2027	0.2273	0.2438	0.2516
	0.8161	0.8125	0.8022	0.7857	0.7641	0.7383	0.7098	0.6799	0.6500
	1.4627	1.4582	1.4455	1.4249	1.3975	1.3645	1.3275	1.2879	1.2478
F_{π}	0.5636	0.5652	0.5703	0.5788	0.5909	0.6065	0.6259	0.6489	0.6755

$$M_{\infty} = 2, \beta_{\kappa} = 15^{\circ}, \alpha = 10^{\circ}$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	156°45'	180°00'	180°00'
0.00	1.4239	1.4437	1.4621	1.4791	1.4928	1.5039	1.5104	1.5180	1.5131
	0.3815	0.3868	0.3918	0.3963	0.4000	0.4030	0.4047	0.4067	0.4054
	0.4098	0.3990	0.3705	0.3218	0.2601	0.1806	0.0983	0.0000	0.0000
	0.6496	0.6178	0.5968	0.5852	0.5808	0.5805	0.5816	0.5821	0.5821
	1.2427	1.1990	1.1697	1.1534	1.1472	1.1468	1.1484	1.1542	1.1490
0.05	1.4320	1.4517	1.4701	1.4865	1.4997	1.5092	1.5144	1.5164	
	0.3622	0.3711	0.3803	0.3891	0.3976	0.4042	0.4092	0.4123	
	0.3852	0.3738	0.3447	0.2986	0.2375	0.1647	0.0845	0.0000	
	0.6628	0.6307	0.6083	0.5943	0.5869	0.5836	0.5826	0.5822	
	1.2310	1.1831	1.1490	1.1269	1.1171	1.1196	1.1385	1.1544	
0.10	1.4375	1.4562	1.4736	1.4887	1.5007	1.5095	1.5145	1.5164	
	0.3454	0.3571	0.3694	0.3814	0.3929	0.4020	0.4088	0.4124	
	0.3628	0.3505	0.3219	0.2775	0.2197	0.1520	0.0776	0.0000	
	0.6717	0.6395	0.6160	0.6003	0.5908	0.5855	0.5831	0.5822	
	1.2446	1.1986	1.1651	1.1440	1.1361	1.1391	1.1487	1.1544	
0.15	1.4424	1.4603	1.4767	1.4910	1.5023	1.5106	1.5155	1.5172	
	0.3307	0.3450	0.3598	0.3741	0.3877	0.3984	0.4063	0.4101	
	0.3443	0.3317	0.3037	0.2612	0.2065	0.1428	0.0728	0.0000	
	0.6776	0.6454	0.6212	0.6042	0.5932	0.5865	0.5831	0.5819	
	1.2563	1.2122	1.1790	1.1579	1.1489	1.1482	1.1518	1.1540	
0.20	1.4469	1.4641	1.4798	1.4934	1.5042	1.5121	1.5168	1.5185	
	0.3177	0.3341	0.3509	0.3671	0.3822	0.3942	0.4027	0.4067	
	0.3291	0.3163	0.2891	0.2483	0.1962	0.1356	0.0691	0.0000	
	0.6814	0.6492	0.6245	0.6066	0.5945	0.5868	0.5827	0.5813	
	1.2665	1.2227	1.1896	1.1678	1.1567	1.1526	1.1526	1.1531	
0.25	1.4512	1.4677	1.4828	1.4960	1.5063	1.5140	1.5186	1.5201	
	0.3065	0.3242	0.3427	0.3604	0.3765	0.3895	0.3986	0.4026	
	0.3163	0.3036	0.2771	0.2379	0.1879	0.1299	0.0662	0.0000	
	0.6835	0.6515	0.6264	0.6078	0.5949	0.5865	0.5819	0.5803	
	1.2734	1.2303	1.1971	1.1743	1.1613	1.1546	1.1522	1.1517	
0.30	1.4553	1.4713	1.4859	1.4986	1.5087	1.5161	1.5205	1.5221	
	0.2954	0.3150	0.3350	0.3539	0.3711	0.3847	0.3944	0.3981	
	0.3056	0.2930	0.2672	0.2293	0.1812	0.1252	0.0639	0.0000	
	0.6843	0.6525	0.6273	0.6082	0.5947	0.5857	0.5807	0.5789	
	1.2780	1.2355	1.2021	1.1784	1.1637	1.1550	1.1510	1.1498	
0.35	1.4594	1.4748	1.4890	1.5013	1.5111	1.5184	1.5227	1.5242	
	0.2855	0.3066	0.3278	0.3477	0.3656	0.3798	0.3895	0.3935	
	0.2965	0.2840	0.2588	0.2221	0.1755	0.1213	0.0619	0.0000	
	0.6840	0.6526	0.6273	0.6078	0.5938	0.5844	0.5791	0.5773	
	1.2807	1.2387	1.2052	1.1806	1.1645	1.1543	1.1491	1.1474	
0.40	1.4633	1.4783	1.4921	1.5041	1.5137	1.5208	1.5250	1.5265	
	0.2764	0.2986	0.3209	0.3417	0.3603	0.3749	0.3848	0.3889	
	0.2887	0.2764	0.2518	0.2161	0.1708	0.1181	0.0602	0.0000	
	0.6829	0.6518	0.6265	0.6068	0.5925	0.5828	0.5772	0.5753	
	1.2818	1.2403	1.2066	1.1814	1.1641	1.1528	1.1467	1.1446	
0.45	1.4672	1.4818	1.4952	1.5070	1.5163	1.5233	1.5275	1.5290	
	0.2677	0.2911	0.3143	0.3358	0.3550	0.3703	0.3801	0.3842	
	0.2821	0.2699	0.2457	0.2109	0.1667	0.1153	0.0588	0.0000	
	0.6811	0.6504	0.6252	0.6053	0.5903	0.5808	0.5750	0.5731	
	1.2815	1.2405	1.2068	1.1810	1.1628	1.1506	1.1437	1.1414	
0.50	1.4711	1.4853	1.4984	1.5099	1.5191	1.5260	1.5302	1.5317	
	0.2596	0.2839	0.3080	0.3302	0.3498	0.3651	0.3754	0.3795	
	0.2763	0.2643	0.2406	0.2065	0.1633	0.1129	0.0576	0.0000	
	0.6787	0.6484	0.6233	0.6034	0.5887	0.5785	0.5726	0.5705	
	1.2801	1.2395	1.2058	1.1796	1.1607	1.1473	1.1403	1.1378	

$$M_{\infty} = 2, \beta_{\kappa} = 15^{\circ}, \alpha = 10^{\circ}$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.55	1.4749	1.4888	1.5016	1.5129	1.5220	1.5288	1.5329	1.5344	
	0.2517	0.2770	0.3019	0.3246	0.3447	0.3603	0.3707	0.3747	
	0.2714	0.2594	0.2361	0.2027	0.1603	0.1109	0.0566	0.0000	
	0.6758	0.6459	0.6210	0.6010	0.5862	0.5759	0.5698	0.5677	
	1.2776	1.2375	1.2039	1.1773	1.1579	1.1444	1.1365	1.1338	
0.60	1.4788	1.4924	1.5049	1.5161	1.5250	1.5317	1.5358	1.5374	
	0.2442	0.2704	0.2959	0.3192	0.3397	0.3555	0.3660	0.3700	
	0.2671	0.2552	0.2322	0.1994	0.1578	0.1091	0.0556	0.0000	
	0.6724	0.6130	0.6283	0.5983	0.5834	0.5729	0.5668	0.5646	
	1.2743	1.2347	1.2012	1.1744	1.1545	1.1405	1.1323	1.1293	
0.65	1.4827	1.4960	1.5083	1.5193	1.5282	1.5348	1.5389	1.5405	
	0.2370	0.2639	0.2901	0.3137	0.3346	0.3507	0.3613	0.3652	
	0.2633	0.2516	0.2289	0.1966	0.1556	0.1076	0.0549	0.0000	
	0.6685	0.6396	0.6151	0.5952	0.5802	0.5697	0.5635	0.5612	
	1.2701	1.2310	1.1977	1.1707	1.1504	1.1361	1.1276	1.1245	
0.70	1.4867	1.4997	1.5118	1.5227	1.5315	1.5380	1.5422	1.5438	
	0.2298	0.2575	0.2842	0.3083	0.3295	0.3458	0.3565	0.3604	
	0.2601	0.2484	0.2260	0.1941	0.1536	0.1063	0.0542	0.0000	
	0.6642	0.6358	0.6116	0.5916	0.5767	0.5661	0.5598	0.5575	
	1.2651	1.2266	1.1935	1.1662	1.1458	1.1312	1.1224	1.1191	
0.75	1.4908	1.5036	1.5155	1.5263	1.5350	1.5415	1.5457	1.5473	
	0.2228	0.2511	0.2784	0.3028	0.3243	0.3409	0.3515	0.3554	
	0.2574	0.2457	0.2235	0.1920	0.1520	0.1052	0.0536	0.0000	
	0.6595	0.6315	0.6076	0.5877	0.5727	0.5622	0.5557	0.5533	
	1.2594	1.2214	1.1885	1.1611	1.1405	1.1256	1.1166	1.1132	
0.80	1.4951	1.5076	1.5194	1.5302	1.5388	1.5453	1.5495	1.5512	
	0.2157	0.2447	0.2725	0.2972	0.3170	0.3357	0.3463	0.3501	
	0.2550	0.2434	0.2214	0.1902	0.1506	0.1042	0.0530	0.0000	
	0.6542	0.6267	0.6031	0.5832	0.5683	0.5577	0.5512	0.5487	
	1.2528	1.2154	1.1828	1.1552	1.1344	1.1194	1.1101	1.1065	
0.85	1.5010	1.5135	1.5253	1.5362	1.5446	1.5507	1.5545	1.5556	
	0.2076	0.2370	0.2652	0.2902	0.3123	0.3294	0.3404	0.3445	
	0.2534	0.2420	0.2201	0.1892	0.1499	0.1036	0.0527	0.0000	
	0.6462	0.6190	0.5955	0.5757	0.5612	0.5511	0.5452	0.5434	
	1.2422	1.2050	1.1724	1.1448	1.1243	1.1099	1.1015	1.0988	
0.90	1.5072	1.5199	1.5319	1.5429	1.5512	1.5569	1.5601	1.5606	
	0.1991	0.2288	0.2572	0.2823	0.3048	0.3224	0.3337	0.3383	
	0.2522	0.2409	0.2192	0.1886	0.1495	0.1034	0.0526	0.0000	
	0.6374	0.6103	0.5869	0.5670	0.5528	0.5443	0.5381	0.5372	
	1.2303	1.1931	1.1605	1.1325	1.1123	1.0988	1.0913	1.0899	
0.95	1.5125	1.5251	1.5371	1.5484	1.5569	1.5627	1.5661	1.5667	
	0.1912	0.2214	0.2501	0.2750	0.2975	0.3152	0.3265	0.3309	
	0.2509	0.2396	0.2180	0.1877	0.1490	0.1032	0.0527	0.0000	
	0.6299	0.6033	0.5801	0.5599	0.5455	0.5359	0.5305	0.5294	
	1.2204	1.1835	1.1510	1.1224	1.1018	1.0881	1.0802	1.0786	
1.00	1.5187	1.5313	1.5435	1.5558	1.5649	1.5712	1.5750	1.5758	
	0.1824	0.2128	0.2416	0.2657	0.2877	0.3051	0.3161	0.3204	
	0.2499	0.2387	0.2172	0.1873	0.1490	0.1034	0.0529	0.0000	
	0.6210	0.5946	0.5713	0.5500	0.5348	0.5249	0.5191	0.5178	
	1.2082	1.1715	1.1388	1.1083	1.0865	1.0720	1.0635	1.0617	
F_x	0.7048	0.7369	0.7694	0.8037	0.8332	0.8574	0.8733	0.8795	

$$M_{\infty} = 2, \beta_{\kappa} = 20^{\circ}, \alpha = 5^{\circ}$$

ξ	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.00	1.2541	1.2552	1.2583	1.2634	1.2703	1.2788	1.2886	1.2994	1.3108
	0.4565	0.4568	0.4580	0.4598	0.4623	0.4654	0.4690	0.4730	0.4771
	0.0000	0.0329	0.0648	0.0947	0.1217	0.1448	0.1631	0.1758	0.1820
	1.0615	1.0580	1.0474	1.0307	1.0087	0.9829	0.9546	0.9256	0.8972
	1.7613	1.7571	1.7446	1.7246	1.6982	1.6670	1.6327	1.5971	1.5620
0.05	1.2638	1.2649	1.2681	1.2733	1.2804	1.2892	1.2993	1.3104	1.3222
	0.4305	0.4310	0.4324	0.4346	0.4376	0.4414	0.4458	0.4507	0.4558
	0.0000	0.0318	0.0627	0.0916	0.1176	0.1398	0.1573	0.1693	0.1751
	1.0603	1.0568	1.0466	1.0302	1.0086	0.9833	0.9555	0.9268	0.8987
	1.7599	1.7558	1.7438	1.7246	1.6993	1.6692	1.6361	1.6016	1.5675
0.10	1.2729	1.2740	1.2771	1.2823	1.2894	1.2980	1.3080	1.3189	1.3304
	0.4072	0.4077	0.4092	0.4118	0.4152	0.4195	0.4245	0.4300	0.4359
	0.0000	0.0308	0.0607	0.0887	0.1138	0.1352	0.1520	0.1634	0.1688
	1.0572	1.0538	1.0437	1.0277	1.0066	0.9817	0.9544	0.9261	0.8982
	1.7561	1.7522	1.7405	1.7217	1.6970	1.6676	1.6351	1.6011	1.5674
0.15	1.2816	1.2827	1.2858	1.2909	1.2978	1.3063	1.3161	1.3268	1.3381
	0.3859	0.3865	0.3882	0.3910	0.3949	0.3996	0.4052	0.4113	0.4179
	0.0000	0.0300	0.0590	0.0861	0.1105	0.1311	0.1473	0.1582	0.1633
	1.0525	1.0491	1.0393	1.0236	1.0030	0.9786	0.9517	0.9238	0.8963
	1.7506	1.7467	1.7353	1.7170	1.6928	1.6639	1.6320	1.5986	1.5652
0.20	1.2899	1.2909	1.2940	1.2990	1.3058	1.3142	1.3238	1.3343	1.3454
	0.3665	0.3671	0.3690	0.3721	0.3763	0.3815	0.3875	0.3943	0.4014
	0.0000	0.0292	0.0574	0.0838	0.1075	0.1275	0.1431	0.1536	0.1584
	1.0466	1.0433	1.0337	1.0184	0.9981	0.9742	0.9478	0.9204	0.8931
	1.7436	1.7398	1.7286	1.7107	1.6870	1.6588	1.6274	1.5945	1.5615
0.25	1.2979	1.2989	1.3020	1.3069	1.3136	1.3218	1.3312	1.3415	1.3524
	0.3185	0.3192	0.3212	0.3246	0.3291	0.3347	0.3413	0.3485	0.3563
	0.0000	0.0285	0.0561	0.0818	0.1048	0.1243	0.1394	0.1495	0.1540
	1.0397	1.0366	1.0272	1.0121	0.9923	0.9689	0.9430	0.9159	0.8891
	1.7354	1.7317	1.7208	1.7033	1.6801	1.6524	1.6216	1.5891	1.5566
0.30	1.3056	1.3066	1.3096	1.3145	1.3211	1.3291	1.3384	1.3485	1.3591
	0.3318	0.3326	0.3348	0.3383	0.3432	0.3492	0.3562	0.3640	0.3722
	0.0000	0.0279	0.0549	0.0800	0.1025	0.1214	0.1361	0.1459	0.1502
	1.0321	1.0290	1.0199	1.0051	0.9858	0.9627	0.9373	0.9107	0.8842
	1.7263	1.7227	1.7121	1.6949	1.6722	1.6450	1.6147	1.5828	1.5506
0.35	1.3132	1.3141	1.3171	1.3218	1.3283	1.3362	1.3453	1.3553	1.3657
	0.3162	0.3170	0.3193	0.3231	0.3283	0.3347	0.3421	0.3503	0.3591
	0.0000	0.0273	0.0538	0.0784	0.1004	0.1189	0.1332	0.1426	0.1468
	1.0239	1.0209	1.0119	0.9975	0.9785	0.9560	0.9310	0.9048	0.8787
	1.7165	1.7130	1.7025	1.6857	1.6635	1.6368	1.6070	1.5755	1.5438
0.40	1.3205	1.3215	1.3243	1.3290	1.3354	1.3432	1.3521	1.3619	1.3721
	0.3016	0.3024	0.3049	0.3089	0.3143	0.3211	0.3289	0.3376	0.3468
	0.0000	0.0269	0.0528	0.0770	0.0985	0.1166	0.1306	0.1398	0.1438
	1.0152	1.0122	1.0034	0.9893	0.9707	0.9486	0.9241	0.8984	0.8727
	1.7060	1.7025	1.6923	1.6759	1.6540	1.6279	1.5986	1.5676	1.5363
0.45	1.3277	1.3286	1.3315	1.3361	1.3423	1.3500	1.3588	1.3683	1.3784
	0.2877	0.2886	0.2912	0.2954	0.3011	0.3082	0.3164	0.3255	0.3352
	0.0000	0.0264	0.0519	0.0757	0.0968	0.1146	0.1282	0.1372	0.1411
	1.0059	1.0030	0.9944	0.9807	0.9625	0.9408	0.9168	0.8915	0.8662
	1.6949	1.6915	1.6815	1.6654	1.6440	1.6183	1.5896	1.5591	1.5282
0.50	1.3347	1.3357	1.3385	1.3430	1.3491	1.3567	1.3653	1.3748	1.3847
	0.2745	0.2754	0.2781	0.2826	0.2886	0.2960	0.3045	0.3140	0.3241
	0.0000	0.0260	0.0512	0.0746	0.0953	0.1128	0.1262	0.1350	0.1387
	0.9963	0.9935	0.9851	0.9716	0.9538	0.9326	0.9090	0.8841	0.8592
	1.6833	1.6800	1.6702	1.6544	1.6334	1.6082	1.5800	1.5499	1.5194

$$M_{\infty} = 2, \beta_{\kappa} = 20^{\circ}, \alpha = 5^{\circ}$$

ξ	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.55	1.3417	1.3426	1.3454	1.3498	1.3559	1.3633	1.3718	1.3811	1.3908
	0.2619	0.2629	0.2657	0.2703	0.2766	0.2843	0.2932	0.3031	0.3135
	0.0000	0.0257	0.0505	0.0735	0.0940	0.1112	0.1243	0.1329	0.1365
	0.9863	0.9835	0.9753	0.9622	0.9447	0.9239	0.9008	0.8765	0.8519
	1.6712	1.6680	1.6584	1.6429	1.6224	1.5976	1.5698	1.5403	1.5102
0.60	1.3487	1.3496	1.3523	1.3566	1.3626	1.3699	1.3782	1.3874	1.3970
	0.2498	0.2508	0.2537	0.2585	0.2650	0.2730	0.2823	0.2925	0.3033
	0.0000	0.0254	0.0499	0.0726	0.0928	0.1097	0.1227	0.1311	0.1346
	0.9759	0.9732	0.9652	0.9523	0.9351	0.9149	0.8922	0.8683	0.8442
	1.6586	1.6555	1.6461	1.6310	1.6108	1.5865	1.5592	1.5301	1.5005
0.65	1.3556	1.3565	1.3591	1.3634	1.3693	1.3764	1.3847	1.3937	1.4032
	0.2381	0.2391	0.2422	0.2471	0.2539	0.2622	0.2717	0.2822	0.2934
	0.0000	0.0251	0.0493	0.0718	0.0918	0.1085	0.1212	0.1295	0.1329
	0.9652	0.9626	0.9547	0.9422	0.9255	0.9055	0.8833	0.8598	0.8361
	1.6456	1.6425	1.6333	1.6185	1.5987	1.5749	1.5481	1.5194	1.4902
0.70	1.3625	1.3634	1.3660	1.3702	1.3760	1.3830	1.3911	1.4000	1.4094
	0.2267	0.2277	0.2303	0.2360	0.2430	0.2516	0.2615	0.2723	0.2837
	0.0000	0.0249	0.0488	0.0711	0.0908	0.1073	0.1199	0.1280	0.1313
	0.9541	0.9515	0.9439	0.9316	0.9153	0.8958	0.8740	0.8510	0.8276
	1.6321	1.6290	1.6200	1.6055	1.5861	1.5628	1.5364	1.5083	1.4794
0.75	1.3695	1.3703	1.3729	1.3771	1.3827	1.3897	1.3977	1.4065	1.4157
	0.2155	0.2166	0.2199	0.2252	0.2324	0.2412	0.2514	0.2625	0.2742
	0.0000	0.0246	0.0484	0.0705	0.0900	0.1063	0.1187	0.1267	0.1300
	0.9426	0.9401	0.9326	0.9206	0.9047	0.8856	0.8642	0.8416	0.8187
	1.6180	1.6150	1.6062	1.5920	1.5730	1.5501	1.5242	1.4964	1.4680
0.80	1.3766	1.3774	1.3799	1.3840	1.3896	1.3965	1.4044	1.4130	1.4221
	0.2045	0.2057	0.2090	0.2145	0.2219	0.2310	0.2414	0.2528	0.2648
	0.0000	0.0245	0.0480	0.0699	0.0893	0.1054	0.1177	0.1256	0.1287
	0.9307	0.9282	0.9209	0.9092	0.8936	0.8749	0.8540	0.8318	0.8093
	1.6033	1.6004	1.5918	1.5779	1.5593	1.5367	1.5113	1.4840	1.4560
0.85	1.3838	1.3846	1.3871	1.3912	1.3967	1.4034	1.4112	1.4198	1.4288
	0.1936	0.1948	0.1982	0.2039	0.2115	0.2208	0.2315	0.2432	0.2554
	0.0000	0.0243	0.0477	0.0694	0.0886	0.1046	0.1168	0.1246	0.1277
	0.9182	0.9158	0.9087	0.8972	0.8820	0.8638	0.8433	0.8215	0.7994
	1.5879	1.5851	1.5767	1.5630	1.5448	1.5227	1.4977	1.4709	1.4432
0.90	1.3913	1.3921	1.3945	1.3985	1.4039	1.4106	1.4183	1.4268	1.4357
	0.1826	0.1838	0.1874	0.1932	0.2010	0.2105	0.2214	0.2334	0.2459
	0.0000	0.0242	0.0474	0.0690	0.0881	0.1039	0.1160	0.1237	0.1267
	0.9051	0.9027	0.8958	0.8847	0.8698	0.8519	0.8319	0.8105	0.7887
	1.5717	1.5689	1.5607	1.5473	1.5295	1.5078	1.4832	1.4567	1.4295
0.95	1.3991	1.3999	1.4023	1.4062	1.4116	1.4181	1.4258	1.4342	1.4431
	0.1716	0.1727	0.1764	0.1823	0.1903	0.2000	0.2112	0.2233	0.2360
	0.0000	0.0240	0.0472	0.0687	0.0875	0.1034	0.1153	0.1229	0.1259
	0.8912	0.8889	0.8822	0.8713	0.8567	0.8393	0.8196	0.7986	0.7772
	1.5544	1.5517	1.5437	1.5306	1.5130	1.4918	1.4676	1.4415	1.4146
1.00	1.4073	1.4081	1.4105	1.4144	1.4197	1.4262	1.4338	1.4422	1.4511
	0.1600	0.1613	0.1650	0.1710	0.1792	0.1891	0.2004	0.2128	0.2256
	0.0000	0.0237	0.0470	0.0684	0.0872	0.1029	0.1147	0.1223	0.1253
	0.8763	0.8740	0.8675	0.8568	0.8426	0.8255	0.8062	0.7856	0.7645
	1.5358	1.5331	1.5252	1.5124	1.4952	1.4743	1.4505	1.4247	1.3980
F_{κ}	0.7260	0.7269	0.7296	0.7341	0.7402	0.7480	0.7571	0.7675	0.7788

$$M_{\infty} = 2, \beta_{\kappa} = 20^{\circ}, \alpha = 5^{\circ}$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.00	1.3224 0.4813 0.1813 0.8708 1.5290	1.3337 0.4854 0.1733 0.8473 1.4993	1.3442 0.4892 0.1581 0.8273 1.4740	1.3535 0.4926 0.1360 0.8112 1.4534	1.3612 0.4955 0.1079 0.7990 1.4378	1.3670 0.4976 0.0748 0.7905 1.4269	1.3706 0.4989 0.0383 0.7855 1.4205	1.3787 0.5018 0.0000 0.7839 1.4262	1.3718 0.4993 0.0000 0.7839 1.4183
0.05	1.3341 0.4611 0.1742 0.8723 1.5353	1.3458 0.4664 0.1663 0.8486 1.5062	1.3566 0.4714 0.1515 0.8284 1.4812	1.3663 0.4758 0.1302 0.8118 1.4608	1.3742 0.4796 0.1032 0.7991 1.4451	1.3802 0.4824 0.0715 0.7903 1.4341	1.3838 0.4842 0.0366 0.7850 1.4275	1.3851 0.4848 0.0000 0.7833 1.4254	
0.10	1.3421 0.4420 0.1677 0.8720 1.5354	1.3534 0.4480 0.1600 0.8482 1.5062	1.3639 0.4538 0.1456 0.8278 1.4809	1.3732 0.4589 0.1250 0.8110 1.4600	1.3808 0.4633 0.0990 0.7980 1.4438	1.3865 0.4666 0.0686 0.7888 1.4323	1.3900 0.4687 0.0351 0.7834 1.4254	1.3912 0.4694 0.0000 0.7815 1.4231	
0.15	1.3495 0.4247 0.1621 0.8702 1.5334	1.3605 0.4314 0.1544 0.8465 1.5043	1.3707 0.4378 0.1404 0.8260 1.4788	1.3798 0.4436 0.1205 0.8090 1.4576	1.3872 0.4485 0.0953 0.7958 1.4410	1.3927 0.4522 0.0660 0.7864 1.4292	1.3961 0.4545 0.0337 0.7808 1.4221	1.3972 0.4553 0.0000 0.7789 1.4198	
0.20	1.3565 0.4088 0.1571 0.8673 1.5299	1.3673 0.4162 0.1495 0.8437 1.5009	1.3773 0.4232 0.1358 0.8232 1.4753	1.3861 0.4295 0.1165 0.8061 1.4540	1.3933 0.4348 0.0921 0.7928 1.4372	1.3986 0.4389 0.0637 0.7832 1.4251	1.4019 0.4414 0.0326 0.7776 1.4179	1.4030 0.4423 0.0000 0.7756 1.4155	
0.25	1.3633 0.3943 0.1527 0.8635 1.5252	1.3738 0.4022 0.1452 0.8400 1.4963	1.3836 0.4097 0.1318 0.8196 1.4708	1.3922 0.4165 0.1130 0.8025 1.4493	1.3992 0.4222 0.0893 0.7891 1.4324	1.4044 0.4266 0.0618 0.7794 1.4202	1.4077 0.4293 0.0316 0.7737 1.4129	1.4087 0.4302 0.0000 0.7718 1.4104	
0.30	1.3698 0.3807 0.1488 0.8589 1.5195	1.3801 0.3892 0.1414 0.8357 1.4908	1.3897 0.3972 0.1283 0.8153 1.4654	1.3981 0.4044 0.1099 0.7982 1.4439	1.4050 0.4105 0.0868 0.7848 1.4269	1.4101 0.4151 0.0600 0.7751 1.4146	1.4133 0.4180 0.0307 0.7693 1.4072	1.4143 0.4189 0.0000 0.7674 1.4047	
0.35	1.3762 0.3681 0.1453 0.8537 1.5131	1.3863 0.3770 0.1381 0.8307 1.4846	1.3957 0.3855 0.1252 0.8104 1.4592	1.4040 0.3931 0.1072 0.7934 1.4377	1.4107 0.3994 0.0847 0.7800 1.4207	1.4157 0.4043 0.0585 0.7703 1.4083	1.4188 0.4073 0.0299 0.7645 1.4009	1.4199 0.4083 0.0000 0.7626 1.3984	
0.40	1.3824 0.3563 0.1422 0.8480 1.5059	1.3924 0.3656 0.1351 0.8252 1.4776	1.4016 0.3744 0.1225 0.8051 1.4524	1.4097 0.3824 0.1048 0.7882 1.4310	1.4163 0.3890 0.0827 0.7748 1.4139	1.4213 0.3941 0.0572 0.7651 1.4015	1.4243 0.3972 0.0292 0.7593 1.3940	1.4253 0.3983 0.0000 0.7573 1.3915	
0.45	1.3886 0.3450 0.1395 0.8418 1.4981	1.3983 0.3548 0.1324 0.8193 1.4701	1.4074 0.3640 0.1200 0.7994 1.4450	1.4154 0.3722 0.1027 0.7825 1.4237	1.4219 0.3791 0.0811 0.7692 1.4066	1.4268 0.3844 0.0560 0.7596 1.3943	1.4298 0.3876 0.0286 0.7537 1.3868	1.4308 0.3888 0.0000 0.7518 1.3842	
0.50	1.3946 0.3344 0.1371 0.8352 1.4898	1.4043 0.3444 0.1301 0.8130 1.4620	1.4132 0.3540 0.1178 0.7932 1.4371	1.4210 0.3625 0.1008 0.7765 1.4159	1.4275 0.3697 0.0795 0.7633 1.3989	1.4323 0.3751 0.0550 0.7537 1.3865	1.4352 0.3785 0.0281 0.7478 1.3790	1.4362 0.3796 0.0000 0.7459 1.3765	

$$M_{\infty} = 2, \beta_{\kappa} = 20^{\circ}, \alpha = 5^{\circ}$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.55	1.4007	1.4102	1.4189	1.4267	1.4330	1.4378	1.4407	1.4416	
	0.3241	0.3346	0.3444	0.3532	0.3606	0.3661	0.3696	0.3708	
	0.1349	0.1279	0.1159	0.0991	0.0782	0.0540	0.0276	0.0000	
	0.8282	0.8062	0.7867	0.7701	0.7570	0.7474	0.7416	0.7397	
	1.4808	1.4534	1.4287	1.4076	1.3906	1.3783	1.3708	1.3683	
0.60	1.4066	1.4160	1.4247	1.4323	1.4386	1.4433	1.4462	1.4471	
	0.3143	0.3250	0.3351	0.3442	0.3518	0.3575	0.3610	0.3622	
	0.1329	0.1261	0.1141	0.0976	0.0770	0.0532	0.0272	0.0000	
	0.8209	0.7992	0.7798	0.7634	0.7503	0.7408	0.7351	0.7331	
	1.4715	1.4443	1.4197	1.3988	1.3819	1.3696	1.3621	1.3596	
0.65	1.4127	1.4219	1.4305	1.4381	1.4443	1.4489	1.4518	1.4527	
	0.3047	0.3158	0.3261	0.3354	0.3432	0.3490	0.3526	0.3538	
	0.1312	0.1244	0.1126	0.0962	0.0759	0.0525	0.0268	0.0000	
	0.8131	0.7917	0.7726	0.7563	0.7433	0.7339	0.7282	0.7262	
	1.4616	1.4346	1.4103	1.3895	1.3727	1.3604	1.3530	1.3505	
0.70	1.4188	1.4279	1.4364	1.4439	1.4501	1.4546	1.4575	1.4584	
	0.2953	0.3067	0.3173	0.3268	0.3347	0.3406	0.3443	0.3456	
	0.1296	0.1229	0.1112	0.0950	0.0750	0.0518	0.0264	0.0000	
	0.8050	0.7838	0.7649	0.7488	0.7359	0.7266	0.7209	0.7190	
	1.4511	1.4245	1.4004	1.3797	1.3630	1.3507	1.3433	1.3408	
0.75	1.4250	1.4340	1.4424	1.4499	1.4560	1.4605	1.4633	1.4643	
	0.2861	0.2977	0.3086	0.3182	0.3263	0.3323	0.3361	0.3373	
	0.1282	0.1215	0.1099	0.0939	0.0741	0.0512	0.0261	0.0000	
	0.7964	0.7756	0.7569	0.7409	0.7281	0.7188	0.7132	0.7113	
	1.4401	1.4137	1.3898	1.3692	1.3526	1.3404	1.3330	1.3305	
0.80	1.4314	1.4403	1.4487	1.4560	1.4621	1.4667	1.4695	1.4704	
	0.2770	0.2888	0.2999	0.3097	0.3178	0.3240	0.3278	0.3290	
	0.1270	0.1203	0.1088	0.0930	0.0733	0.0507	0.0259	0.0000	
	0.7873	0.7668	0.7483	0.7325	0.7198	0.7105	0.7049	0.7030	
	1.4284	1.4023	1.3786	1.3581	1.3415	1.3294	1.3220	1.3195	
0.85	1.4379	1.4468	1.4551	1.4625	1.4686	1.4731	1.4759	1.4769	
	0.2678	0.2798	0.2911	0.3010	0.3093	0.3155	0.3193	0.3206	
	0.1259	0.1192	0.1079	0.0921	0.0727	0.0502	0.0256	0.0000	
	0.7777	0.7574	0.7391	0.7235	0.7109	0.7016	0.6960	0.6942	
	1.4159	1.3900	1.3665	1.3461	1.3296	1.3175	1.3101	1.3076	
0.90	1.4448	1.4537	1.4620	1.4693	1.4754	1.4800	1.4828	1.4838	
	0.2584	0.2707	0.2820	0.2921	0.3004	0.3066	0.3105	0.3118	
	0.1249	0.1183	0.1070	0.0914	0.0721	0.0498	0.0254	0.0000	
	0.7674	0.7473	0.7292	0.7136	0.7011	0.6919	0.6863	0.6845	
	1.4025	1.3768	1.3534	1.3331	1.3166	1.3044	1.2970	1.2945	
0.95	1.4522	1.4610	1.4694	1.4768	1.4829	1.4876	1.4904	1.4914	
	0.2488	0.2611	0.2726	0.2827	0.2910	0.2972	0.3011	0.3024	
	0.1241	0.1175	0.1063	0.0908	0.0716	0.0494	0.0252	0.0000	
	0.7561	0.7363	0.7183	0.7028	0.6903	0.6811	0.6755	0.6736	
	1.3878	1.3622	1.3389	1.3185	1.3020	1.2898	1.2823	1.2798	
1.00	1.4602	1.4691	1.4776	1.4851	1.4914	1.4962	1.4992	1.5002	
	0.2385	0.2509	0.2623	0.2724	0.2807	0.2868	0.2906	0.2919	
	0.1234	0.1168	0.1056	0.0902	0.0712	0.0491	0.0251	0.0000	
	0.7436	0.7239	0.7059	0.6904	0.6778	0.6685	0.6628	0.6609	
	1.3714	1.3458	1.3224	1.3019	1.2851	1.2727	1.2651	1.2625	
F_x	0.7907	0.8026	0.8142	0.8248	0.8338	0.8407	0.8451	0.8466	

$$M_{\infty} = 2, \beta_{\kappa} = 20^{\circ}, \alpha = 10^{\circ}$$

ξ	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.00	1.1765	1.1785	1.1843	1.1939	1.2069	1.2231	1.2420	1.2631	1.2857
	0.4282	0.4289	0.4311	0.4345	0.4393	0.4452	0.4521	0.4597	0.4680
	0.0000	0.0609	0.1203	0.1770	0.2293	0.2758	0.3148	0.3444	0.3626
	1.2348	1.2261	1.2007	1.1605	1.1084	1.0481	0.9838	0.9196	0.8594
	1.9501	1.9403	1.9115	1.8655	1.8053	1.7347	1.6579	1.5799	1.5053
0.05	1.1869	1.1889	1.1949	1.2046	1.2179	1.2344	1.2538	1.2754	1.2986
	0.4003	0.4011	0.4036	0.4078	0.4134	0.4205	0.4289	0.4383	0.4485
	0.0000	0.0591	0.1167	0.1715	0.2219	0.2664	0.3034	0.3311	0.3477
	1.2334	1.2250	1.2004	1.1614	1.1109	1.0524	0.9898	0.9271	0.8679
	1.9485	1.9392	1.9117	1.8678	1.8103	1.7427	1.6692	1.5942	1.5222
0.10	1.1968	1.1987	1.2046	1.2143	1.2275	1.2439	1.2631	1.2844	1.3073
	0.3750	0.3760	0.3788	0.3835	0.3900	0.3981	0.4076	0.4184	0.4301
	0.0000	0.0575	0.1135	0.1666	0.2153	0.2581	0.2935	0.3196	0.3349
	1.2297	1.2215	1.1977	1.1599	1.1109	1.0540	0.9930	0.9317	0.8735
	1.9443	1.9353	1.9088	1.8665	1.8110	1.7456	1.6744	1.6015	1.5311
0.15	1.2061	1.2081	1.2139	1.2235	1.2366	1.2528	1.2716	1.2926	1.3150
	0.3519	0.3530	0.3562	0.3614	0.3686	0.3776	0.3883	0.4003	0.4134
	0.0000	0.0560	0.1106	0.1622	0.2095	0.2508	0.2847	0.3096	0.3237
	1.2242	1.2163	1.1931	1.1565	1.1089	1.0535	0.9940	0.9340	0.8768
	1.9381	1.9294	1.9037	1.8628	1.8091	1.7457	1.6765	1.6054	1.5364
0.20	1.2150	1.2170	1.2228	1.2322	1.2451	1.2611	1.2796	1.3002	1.3222
	0.3307	0.3319	0.3354	0.3411	0.3491	0.3590	0.3707	0.3838	0.3982
	0.0000	0.0548	0.1080	0.1584	0.2043	0.2444	0.2770	0.3007	0.3139
	1.2172	1.2096	1.1871	1.1515	1.1052	1.0513	0.9933	0.9345	0.8783
	1.9302	1.9218	1.8970	1.8573	1.8052	1.7437	1.6763	1.6068	1.5391
0.25	1.2236	1.2256	1.2313	1.2406	1.2533	1.2690	1.2872	1.3074	1.3290
	0.3111	0.3122	0.3161	0.3224	0.3310	0.3418	0.3544	0.3687	0.3842
	0.0000	0.0536	0.1058	0.1550	0.1998	0.2386	0.2702	0.2929	0.3053
	1.2092	1.2017	1.1799	1.1453	1.1003	1.0478	0.9911	0.9336	0.8783
	1.9211	1.9129	1.8889	1.8504	1.7998	1.7399	1.6742	1.6063	1.5397
0.30	1.2320	1.2338	1.2395	1.2486	1.2611	1.2766	1.2944	1.3143	1.3354
	0.2928	0.2941	0.2982	0.3050	0.3143	0.3258	0.3394	0.3547	0.3713
	0.0000	0.0527	0.1038	0.1520	0.1957	0.2336	0.2641	0.2859	0.2976
	1.2002	1.1930	1.1718	1.1381	1.0943	1.0432	0.9878	0.9315	0.8771
	1.9109	1.9030	1.8796	1.8422	1.7931	1.7347	1.6707	1.6042	1.5387
0.35	1.2400	1.2419	1.2474	1.2564	1.2687	1.2839	1.3014	1.3209	1.3416
	0.2756	0.2771	0.2815	0.2887	0.2986	0.3109	0.3254	0.3417	0.3593
	0.0000	0.0518	0.1021	0.1493	0.1922	0.2291	0.2588	0.2798	0.2909
	1.1905	1.1835	1.1629	1.1302	1.0875	1.0376	0.9836	0.9285	0.8750
	1.8998	1.8921	1.8694	1.8331	1.7853	1.7284	1.6659	1.6008	1.5364
0.40	1.2479	1.2497	1.2551	1.2640	1.2761	1.2910	1.3082	1.3273	1.3476
	0.2595	0.2611	0.2657	0.2734	0.2839	0.2970	0.3123	0.3295	0.3480
	0.0000	0.0510	0.1005	0.1470	0.1890	0.2251	0.2540	0.2743	0.2848
	1.1801	1.1733	1.1533	1.1215	1.0800	1.0313	0.9786	0.9245	0.8720
	1.8880	1.8805	1.8585	1.8232	1.7766	1.7212	1.6601	1.5963	1.5330
0.45	1.2556	1.2574	1.2627	1.2714	1.2833	1.2979	1.3148	1.3336	1.3534
	0.2442	0.2459	0.2508	0.2589	0.2700	0.2838	0.3000	0.3180	0.3374
	0.0000	0.0503	0.0991	0.1449	0.1862	0.2216	0.2498	0.2695	0.2795
	1.1693	1.1626	1.1432	1.1122	1.0718	1.0244	0.9728	0.9199	0.8683
	1.8756	1.8683	1.8469	1.8126	1.7672	1.7132	1.6534	1.5908	1.5286
0.50	1.2631	1.2649	1.2701	1.2787	1.2903	1.3047	1.3212	1.3397	1.3592
	0.2297	0.2314	0.2367	0.2452	0.2568	0.2713	0.2882	0.3071	0.3274
	0.0000	0.0497	0.0979	0.1430	0.1837	0.2184	0.2460	0.2651	0.2747
	1.1579	1.1515	1.1326	1.1025	1.0631	1.0169	0.9665	0.9147	0.8640
	1.8626	1.8555	1.8347	1.8013	1.7570	1.7044	1.6459	1.5846	1.5234

$$M_{\infty} = 2, \beta_{\kappa} = 20^{\circ}, \alpha = 10^{\circ}$$

ξ	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.55	1.2706	1.2723	1.2774	1.2858	1.2972	1.3113	1.3276	1.3457	1.3649
	0.2158	0.2177	0.2231	0.2321	0.2442	0.2594	0.2771	0.2967	0.3178
	0.0000	0.0492	0.0968	0.1414	0.1814	0.2156	0.2426	0.2612	0.2704
	1.1461	1.1399	1.1215	1.0922	1.0539	1.0088	0.9596	0.9089	0.8591
	1.8490	1.8421	1.8219	1.7894	1.7463	1.6949	1.6378	1.5776	1.5174
0.60	1.2780	1.2796	1.2847	1.2929	1.3041	1.3179	1.3339	1.3517	1.3705
	0.2025	0.2044	0.2101	0.2195	0.2322	0.2480	0.2664	0.2868	0.3086
	0.0000	0.0487	0.0958	0.1399	0.1795	0.2131	0.2396	0.2578	0.2666
	1.1340	1.1279	1.1100	1.0816	1.0443	1.0003	0.9523	0.9026	0.8537
	1.8350	1.8283	1.8086	1.7770	1.7350	1.6848	1.6290	1.5700	1.5107
0.65	1.2853	1.2869	1.2919	1.2999	1.3109	1.3245	1.3401	1.3576	1.3761
	0.1896	0.1916	0.1976	0.2074	0.2206	0.2370	0.2561	0.2772	0.2997
	0.0000	0.0483	0.0950	0.1387	0.1777	0.2109	0.2369	0.2546	0.2632
	1.1214	1.1155	1.0982	1.0705	1.0342	0.9914	0.9445	0.8958	0.8478
	1.8205	1.8140	1.7948	1.7641	1.7232	1.6742	1.6196	1.5617	1.5034
0.70	1.2926	1.2942	1.2990	1.3069	1.3177	1.3310	1.3463	1.3635	1.3818
	0.1772	0.1793	0.1855	0.1956	0.2094	0.2264	0.2461	0.2679	0.2910
	0.0000	0.0479	0.0943	0.1375	0.1762	0.2090	0.2345	0.2519	0.2601
	1.1085	1.1028	1.0859	1.0591	1.0237	0.9820	0.9362	0.8886	0.8414
	1.8054	1.7991	1.7805	1.7506	1.7107	1.6630	1.6095	1.5528	1.4955
0.75	1.2999	1.3015	1.3062	1.3140	1.3245	1.3375	1.3526	1.3695	1.3874
	0.1650	0.1672	0.1736	0.1841	0.1984	0.2160	0.2364	0.2588	0.2826
	0.0000	0.0476	0.0936	0.1365	0.1748	0.2072	0.2324	0.2494	0.2573
	1.0952	1.0896	1.0733	1.0472	1.0128	0.9722	0.9274	0.8809	0.8346
	1.7899	1.7838	1.7657	1.7366	1.6978	1.6512	1.5989	1.5433	1.4869
0.80	1.3073	1.3088	1.3135	1.3210	1.3314	1.3441	1.3589	1.3755	1.3932
	0.1531	0.1553	0.1620	0.1729	0.1877	0.2058	0.2268	0.2499	0.2743
	0.0000	0.0474	0.0931	0.1357	0.1737	0.2057	0.2306	0.2472	0.2549
	1.0814	1.0760	1.0602	1.0348	1.0014	0.9619	0.9182	0.8727	0.8272
	1.7738	1.7679	1.7503	1.7220	1.6842	1.6388	1.5876	1.5332	1.4777
0.85	1.3148	1.3163	1.3208	1.3282	1.3383	1.3509	1.3654	1.3817	1.3991
	0.1413	0.1436	0.1505	0.1618	0.1770	0.1958	0.2174	0.2411	0.2660
	0.0000	0.0471	0.0926	0.1350	0.1727	0.2044	0.2289	0.2453	0.2527
	1.0671	1.0619	1.0466	1.0219	0.9896	0.9510	0.9085	0.8640	0.8194
	1.7571	1.7513	1.7343	1.7067	1.6700	1.6257	1.5757	1.5224	1.4677
0.90	1.3224	1.3239	1.3283	1.3355	1.3454	1.3577	1.3720	1.3880	1.4052
	0.1296	0.1320	0.1391	0.1507	0.1665	0.1857	0.2080	0.2322	0.2577
	0.0000	0.0470	0.0923	0.1344	0.1718	0.2033	0.2275	0.2436	0.2508
	1.0523	1.0473	1.0324	1.0085	0.9771	0.9396	0.8982	0.8547	0.8109
	1.7396	1.7340	1.7175	1.6908	1.6551	1.6118	1.5631	1.5107	1.4570
0.95	1.3303	1.3317	1.3360	1.3431	1.3528	1.3648	1.3788	1.3946	1.4116
	0.1178	0.1203	0.1277	0.1397	0.1559	0.1757	0.1985	0.2233	0.2493
	0.0000	0.0468	0.0920	0.1339	0.1711	0.2023	0.2263	0.2421	0.2491
	1.0368	1.0319	1.0175	0.9945	0.9640	0.9276	0.8873	0.8447	0.8018
	1.7213	1.7159	1.6998	1.6739	1.6392	1.5971	1.5495	1.4981	1.4453
1.00	1.3384	1.3398	1.3440	1.3509	1.3604	1.3722	1.3860	1.4015	1.4183
	0.1059	0.1085	0.1161	0.1284	0.1451	0.1654	0.1888	0.2142	0.2406
	0.0000	0.0467	0.0918	0.1336	0.1706	0.2016	0.2253	0.2409	0.2477
	1.0205	1.0157	1.0018	0.9796	0.9499	0.9147	0.8754	0.8338	0.7917
	1.7018	1.6966	1.6811	1.6560	1.6222	1.5813	1.5348	1.4845	1.4323
F_x	0.6927	0.6942	0.6987	0.7064	0.7170	0.7308	0.7474	0.7670	0.7890

$$M_{\infty} = 2, \beta_{\kappa} = 20^{\circ}, \alpha = 10^{\circ}$$

ξ	θ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.00	1.3090	1.3320	1.3538	1.3734	1.3896	1.4019	1.4094	1.4264	1.4120
	0.4764	0.4848	0.4928	0.4999	0.5058	0.5162	0.5130	0.5192	0.5139
	0.3674	0.3568	0.3298	0.2865	0.2287	0.1590	0.0816	0.0000	0.0000
	0.8066	0.7633	0.7308	0.7085	0.6948	0.6872	0.6838	0.6828	0.6828
	1.4386	1.3831	1.3408	1.3114	1.2932	1.2831	1.2785	1.2931	1.2772
0.05	1.3225	1.3464	1.3690	1.3893	1.4062	1.4189	1.4266	1.4292	
	0.4592	0.4701	0.4807	0.4907	0.4994	0.5061	0.5104	0.5117	
	0.3513	0.3402	0.3137	0.2719	0.2167	0.1506	0.0773	0.0000	
	0.8154	0.7719	0.7382	0.7142	0.6984	0.6889	0.6840	0.6825	
	1.4574	1.4029	1.3606	1.3305	1.3111	1.2999	1.2945	1.2928	
0.10	1.3308	1.3540	1.3758	1.3952	1.4111	1.4228	1.4299	1.4323	
	0.4424	0.4550	0.4675	0.4791	0.4894	0.4973	0.5024	0.5041	
	0.3376	0.3263	0.3003	0.2599	0.2068	0.1436	0.0736	0.0000	
	0.8215	0.7777	0.7432	0.7178	0.7005	0.6896	0.6837	0.6818	
	1.4671	1.4126	1.3692	1.3371	1.3153	1.3015	1.2942	1.2918	
0.15	1.3380	1.3606	1.3817	1.4003	1.4154	1.4266	1.4333	1.4356	
	0.4272	0.4413	0.4552	0.4683	0.4798	0.4888	0.4946	0.4965	
	0.3257	0.3142	0.2886	0.2494	0.1982	0.1375	0.0704	0.0000	
	0.8252	0.7814	0.7464	0.7200	0.7014	0.6894	0.6827	0.6806	
	1.4731	1.4185	1.3743	1.3408	1.3170	1.3015	1.2929	1.2901	
0.20	1.3446	1.3666	1.3871	1.4051	1.4197	1.4304	1.4369	1.4391	
	0.4133	0.4287	0.4440	0.4582	0.4708	0.4806	0.4869	0.4890	
	0.3153	0.3036	0.2784	0.2403	0.1908	0.1323	0.0677	0.0000	
	0.8273	0.7835	0.7480	0.7208	0.7014	0.6885	0.6812	0.6788	
	1.4765	1.4220	1.3771	1.3424	1.3172	1.3004	1.2909	1.2878	
0.25	1.3509	1.3723	1.3922	1.4097	1.4239	1.4343	1.4406	1.4427	
	0.4005	0.4172	0.4335	0.4488	0.4622	0.4727	0.4794	0.4817	
	0.3061	0.2943	0.2696	0.2324	0.1844	0.1278	0.0654	0.0000	
	0.8279	0.7842	0.7484	0.7206	0.7005	0.6869	0.6792	0.6767	
	1.4773	1.4234	1.3781	1.3424	1.3162	1.2985	1.2883	1.2849	
0.30	1.3568	1.3778	1.3972	1.4143	1.4281	1.4382	1.4444	1.4465	
	0.3887	0.4064	0.4238	0.4400	0.4541	0.4651	0.4722	0.4745	
	0.2980	0.2862	0.2619	0.2256	0.1789	0.1239	0.0634	0.0000	
	0.8273	0.7838	0.7479	0.7197	0.6990	0.6849	0.6768	0.6742	
	1.4776	1.4233	1.3776	1.3413	1.3143	1.2957	1.2850	1.2815	
0.35	1.3626	1.3831	1.4021	1.4188	1.4323	1.4422	1.4482	1.4503	
	0.3777	0.3964	0.4146	0.4316	0.4463	0.4578	0.4651	0.4676	
	0.2909	0.2790	0.2551	0.2196	0.1741	0.1205	0.0616	0.0000	
	0.8258	0.7825	0.7465	0.7180	0.6968	0.6824	0.6740	0.6712	
	1.4760	1.4219	1.3760	1.3392	1.3115	1.2924	1.2812	1.2775	
0.40	1.3682	1.3883	1.4069	1.4232	1.4365	1.4463	1.4522	1.4542	
	0.3674	0.3869	0.4060	0.4236	0.4389	0.4508	0.4583	0.4609	
	0.2845	0.2727	0.2491	0.2143	0.1698	0.1176	0.0601	0.0000	
	0.8234	0.7804	0.7444	0.7157	0.6942	0.6794	0.6708	0.6680	
	1.4732	1.4194	1.3735	1.3363	1.3080	1.2884	1.2769	1.2731	
0.45	1.3737	1.3934	1.4117	1.4277	1.4408	1.4504	1.4562	1.4582	
	0.3576	0.3780	0.3977	0.4160	0.4317	0.4439	0.4517	0.4543	
	0.2789	0.2670	0.2437	0.2097	0.1661	0.1150	0.0588	0.0000	
	0.8203	0.7777	0.7418	0.7129	0.6911	0.6761	0.6673	0.6644	
	1.4695	1.4160	1.3701	1.3325	1.3039	1.2839	1.2721	1.2681	
0.50	1.3791	1.3985	1.4164	1.4323	1.4451	1.4546	1.4604	1.4623	
	0.3484	0.3695	0.3899	0.4086	0.4248	0.4373	0.4452	0.4479	
	0.2739	0.2520	0.2390	0.2055	0.1628	0.1127	0.0577	0.0000	
	0.8166	0.7744	0.7385	0.7096	0.6876	0.6724	0.6634	0.6604	
	1.4650	1.4118	1.3659	1.3282	1.2992	1.2788	1.2668	1.2628	

$$M_{\infty} = 2, \beta_{\kappa} = 20^{\circ}, \alpha = 10^{\circ}$$

ξ	θ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.55	1.3844 0.3395 0.2693 0.8124 1.4597	1.4035 0.3613 0.2575 0.7705 1.4070	1.4212 0.3823 0.2348 0.7348 1.3611	1.4368 0.4015 0.2018 0.7058 1.3232	1.4495 0.4181 0.1599 0.6837 1.2940	1.4589 0.4308 0.1107 0.6683 1.2733	1.4646 0.4388 0.0566 0.6592 1.2610	1.4666 0.4416 0.0000 0.6562 1.2570	
0.60	1.3897 0.3310 0.2653 0.8076 1.4537	1.4085 0.3534 0.2535 0.7662 1.4014	1.4260 0.3749 0.2310 0.7306 1.3556	1.4414 0.3946 0.1985 0.7016 1.3177	1.4540 0.4114 0.1572 0.6794 1.2882	1.4633 0.4244 0.1089 0.6638 1.2672	1.4690 0.4325 0.0557 0.6546 1.2548	1.4709 0.4353 0.0000 0.6516 1.2507	
0.65	1.3950 0.3228 0.2617 0.8024 1.4471	1.4136 0.3458 0.2498 0.7614 1.3952	1.4309 0.3678 0.2276 0.7260 1.3495	1.4461 0.3878 0.1956 0.6970 1.3115	1.4586 0.4049 0.1549 0.6747 1.2818	1.4679 0.4180 0.1073 0.6590 1.2606	1.4735 0.4263 0.0549 0.6497 1.2481	1.4754 0.4291 0.0000 0.6466 1.2439	
0.70	1.4004 0.3118 0.2584 0.7967 1.4399	1.4187 0.3383 0.2466 0.7561 1.3884	1.4358 0.3607 0.2246 0.7209 1.3428	1.4509 0.3811 0.1929 0.6920 1.3047	1.4634 0.3984 0.1528 0.6696 1.2749	1.4726 0.4117 0.1058 0.6538 1.2535	1.4782 0.4200 0.0541 0.6444 1.2408	1.4802 0.4229 0.0000 0.6413 1.2365	
0.75	1.4058 0.3069 0.2555 0.7905 1.4320	1.4239 0.3309 0.2437 0.7503 1.3809	1.4409 0.3537 0.2219 0.7154 1.3355	1.4559 0.3744 0.1906 0.6864 1.2973	1.4683 0.3919 0.1509 0.6640 1.2673	1.4775 0.4053 0.1046 0.6481 1.2457	1.4832 0.4137 0.0535 0.6386 1.2328	1.4851 0.4165 0.0000 0.6355 1.2285	
0.80	1.4113 0.2992 0.2529 0.7839 1.4235	1.4293 0.3236 0.2411 0.7441 1.3727	1.4461 0.3467 0.2194 0.7093 1.3275	1.4611 0.3676 0.1884 0.6804 1.2892	1.4735 0.3853 0.1492 0.6579 1.2589	1.4828 0.3987 0.1034 0.6419 1.2372	1.4885 0.4072 0.0529 0.6323 1.2241	1.4924 0.4101 0.0000 0.6291 1.2198	
0.85	1.4170 0.2914 0.2506 0.7766 1.4442	1.4348 0.3162 0.2387 0.7373 1.3638	1.4516 0.3397 0.2172 0.7027 1.3186	1.4666 0.3607 0.1865 0.6738 1.2802	1.4791 0.3784 0.1477 0.6511 1.2497	1.4884 0.3919 0.1024 0.6350 1.2277	1.4942 0.4004 0.0524 0.6253 1.2144	1.4961 0.4033 0.0000 0.6221 1.2100	
0.90	1.4230 0.2836 0.2485 0.7688 1.4040	1.4407 0.3087 0.2367 0.7298 1.3540	1.4574 0.3324 0.2153 0.6954 1.3088	1.4726 0.3535 0.1848 0.6664 1.2702	1.4851 0.3712 0.1464 0.6436 1.2393	1.4946 0.3847 0.1015 0.6272 1.2170	1.5005 0.3931 0.0519 0.6174 1.2035	1.5025 0.3960 0.0000 0.6142 1.1989	
0.95	1.4292 0.2755 0.2467 0.7602 1.3928	1.4469 0.3010 0.2348 0.7216 1.3431	1.4638 0.3247 0.2135 0.6872 1.2978	1.4790 0.3458 0.1834 0.6580 1.2588	1.4919 0.3635 0.1453 0.6349 1.2274	1.5017 0.3768 0.1007 0.6182 1.2044	1.5077 0.3851 0.0516 0.6082 1.1906	1.5098 0.3879 0.0000 0.6048 1.1859	
1.00	1.4359 0.2672 0.2452 0.7507 1.3804	1.4537 0.2928 0.2333 0.7122 1.3307	1.4708 0.3165 0.2121 0.6777 1.2851	1.4865 0.3373 0.1821 0.6482 1.2453	1.4999 0.3546 0.1443 0.6244 1.2129	1.5102 0.3675 0.1001 0.6071 1.1890	1.5166 0.3754 0.0512 0.5966 1.1743	1.5189 0.3781 0.0000 0.5930 1.1693	
F_x	0.8132	0.8387	0.8645	0.8894	0.9116	0.9293	0.9408	0.9447	

$$M_{\infty} = 2, \beta_{\kappa} = 25^{\circ}, \alpha = 5^{\circ}$$

ξ	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.00	1.1114	1.1125	1.1160	1.1215	1.1291	1.1384	1.1491	1.1609	1.1734
	0.5182	0.5188	0.5204	0.5230	0.5265	0.5308	0.5359	0.5414	0.5471
	0.0200	0.0304	0.0598	0.0874	0.1122	0.1333	0.1498	0.1612	0.1666
	1.2837	1.2797	1.2678	1.2488	1.2239	1.1943	1.1618	1.1280	1.0946
0.05	1.9986	1.9941	1.9809	1.9596	1.9315	1.8981	1.8611	1.8223	1.7835
	1.1225	1.1237	1.1275	1.1335	1.1417	1.1518	1.1635	1.1764	1.1900
	0.4949	0.4956	0.4975	0.5005	0.5047	0.5099	0.5159	0.5225	0.5295
	0.0200	0.0298	0.0587	0.0858	0.1100	0.1307	0.1468	0.1578	0.1630
0.10	1.2825	1.2786	1.2669	1.2482	1.2236	1.1944	1.1623	1.1288	1.0955
	1.9972	1.9930	1.9804	1.9603	1.9337	1.9019	1.8667	1.8299	1.7930
	1.1331	1.1343	1.1380	1.1440	1.1522	1.1623	1.1738	1.1866	1.2000
	0.4737	0.4744	0.4764	0.4797	0.4843	0.4899	0.4963	0.5035	0.5110
0.15	0.0200	0.0293	0.0576	0.0841	0.1078	0.1279	0.1437	0.1543	0.1593
	1.2793	1.2754	1.2639	1.2455	1.2213	1.1925	1.1607	1.1276	1.0945
	1.9936	1.9895	1.9772	1.9575	1.9314	1.9003	1.8657	1.8293	1.7928
	1.1432	1.1444	1.1481	1.1540	1.1621	1.1721	1.1835	1.1961	1.2093
0.20	0.4542	0.4549	0.4571	0.4607	0.4655	0.4715	0.4784	0.4859	0.4940
	0.0200	0.0287	0.0565	0.0824	0.1057	0.1253	0.1407	0.1510	0.1558
	1.2744	1.2706	1.2593	1.2412	1.2174	1.1890	1.1576	1.1248	1.0920
	1.9882	1.9841	1.9721	1.9528	1.9273	1.8967	1.8626	1.8266	1.7904
0.25	1.1529	1.1541	1.1577	1.1636	1.1716	1.1814	1.1927	1.2051	1.2181
	0.4362	0.4369	0.4393	0.4430	0.4482	0.4545	0.4618	0.4698	0.4783
	0.0200	0.0282	0.0555	0.0809	0.1037	0.1230	0.1379	0.1480	0.1526
	1.2682	1.2645	1.2534	1.2356	1.2121	1.1842	1.1532	1.1207	1.0882
0.30	1.9813	1.9773	1.9656	1.9466	1.9215	1.8914	1.8578	1.8223	1.7864
	1.1622	1.1634	1.1670	1.1728	1.1807	1.1904	1.2015	1.2137	1.2265
	0.4194	0.4203	0.4227	0.4267	0.4321	0.4387	0.4464	0.4548	0.4637
	0.0200	0.0277	0.0545	0.0796	0.1019	0.1208	0.1354	0.1452	0.1496
0.35	1.2610	1.2573	1.2464	1.2289	1.2058	1.1783	1.1477	1.1157	1.0835
	1.9732	1.9693	1.9577	1.9392	1.9145	1.8849	1.8517	1.8166	1.7811
	1.1713	1.1725	1.1760	1.1817	1.1895	1.1991	1.2100	1.2220	1.2347
	0.4038	0.4047	0.4072	0.4114	0.4170	0.4240	0.4320	0.4408	0.4501
0.40	0.0200	0.0273	0.0537	0.0783	0.1003	0.1188	0.1331	0.1426	0.1468
	1.2528	1.2492	1.2385	1.2213	1.1986	1.1715	1.1414	1.1097	1.0779
	1.9641	1.9602	1.9489	1.9307	1.9064	1.8773	1.8446	1.8099	1.7747
	1.1801	1.1813	1.1847	1.1904	1.1981	1.2075	1.2183	1.2301	1.2426
0.45	0.3891	0.3900	0.3927	0.3971	0.4029	0.4102	0.4185	0.4277	0.4374
	0.0200	0.0269	0.0529	0.0772	0.0988	0.1170	0.1310	0.1403	0.1444
	1.2439	1.2403	1.2298	1.2130	1.1906	1.1640	1.1343	1.1030	1.0715
	1.9541	1.9503	1.9392	1.9213	1.8975	1.8688	1.8366	1.8023	1.7674
0.50	1.1887	1.1899	1.1933	1.1989	1.2064	1.2157	1.2264	1.2380	1.2503
	0.3753	0.3762	0.3790	0.3835	0.3897	0.3972	0.4058	0.4154	0.4254
	0.0200	0.0266	0.0522	0.0761	0.0974	0.1153	0.1291	0.1382	0.1421
	1.2344	1.2309	1.2206	1.2040	1.1820	1.1558	1.1266	1.0957	1.0646
0.55	1.9434	1.9397	1.9288	1.9112	1.8877	1.8595	1.8278	1.7939	1.7594
	1.1971	1.1983	1.2016	1.2071	1.2146	1.2237	1.2343	1.2458	1.2578
	0.3622	0.3631	0.3660	0.3707	0.3771	0.3849	0.3938	0.4037	0.4140
	0.0200	0.0263	0.0516	0.0752	0.0962	0.1138	0.1273	0.1362	0.1401
0.60	1.2243	1.2208	1.2107	1.1945	1.1729	1.1471	1.1183	1.0879	1.0571
	1.9320	1.9284	1.9177	1.9004	1.8773	1.8495	1.8182	1.7848	1.7507
	1.2054	1.2065	1.2098	1.2153	1.2226	1.2316	1.2420	1.2534	1.2653
	0.3497	0.3507	0.3537	0.3585	0.3651	0.3731	0.3824	0.3925	0.4032
0.65	0.0200	0.0260	0.0510	0.0744	0.0951	0.1124	0.1258	0.1345	0.1382
	1.2137	1.2103	1.2004	1.1844	1.1632	1.1379	1.1095	1.0795	1.0491
	1.9201	1.9165	1.9060	1.8890	1.8664	1.8390	1.8081	1.7751	1.7413

$$M_{\infty} = 2, \beta_{\kappa} = 25^{\circ}, \alpha = 5^{\circ}$$

ξ	θ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.55	1.2136	1.2147	1.2179	1.2233	1.2305	1.2394	1.2497	1.2608	1.2726
	0.3377	0.3388	0.3419	0.3469	0.3536	0.3619	0.3715	0.3819	0.3928
	0.0000	0.0257	0.0505	0.0736	0.0941	0.1112	0.1243	0.1329	0.1365
	1.2027	1.1994	1.1896	1.1739	1.1531	1.1282	1.1003	1.0707	1.0407
	1.9076	1.9041	1.8938	1.8771	1.8548	1.8279	1.7974	1.7648	1.7314
0.60	1.2216	1.2227	1.2260	1.2312	1.2384	1.2471	1.2572	1.2683	1.2799
	0.3263	0.3273	0.3305	0.3357	0.3426	0.3512	0.3609	0.3716	0.3828
	0.0000	0.0255	0.0501	0.0729	0.0931	0.1101	0.1230	0.1314	0.1349
	1.1912	1.1880	1.1784	1.1630	1.1426	1.1181	1.0906	1.0615	1.0319
	1.8946	1.8912	1.8810	1.8647	1.8427	1.8162	1.7862	1.7540	1.7210
0.65	1.2296	1.2307	1.2339	1.2391	1.2462	1.2548	1.2648	1.2756	1.2871
	0.3152	0.3163	0.3196	0.3249	0.3320	0.3408	0.3508	0.3618	0.3732
	0.0000	0.0253	0.0496	0.0723	0.0923	0.1090	0.1218	0.1301	0.1335
	1.1794	1.1762	1.1668	1.1517	1.1316	1.1075	1.0805	1.0518	1.0226
	1.8811	1.8777	1.8678	1.8517	1.8301	1.8040	1.7745	1.7427	1.7100
0.70	1.2376	1.2387	1.2418	1.2470	1.2539	1.2624	1.2723	1.2830	1.2944
	0.3045	0.3056	0.3089	0.3144	0.3217	0.3307	0.3410	0.3522	0.3639
	0.0000	0.0251	0.0493	0.0717	0.0915	0.1081	0.1207	0.1289	0.1321
	1.1671	1.1640	1.1548	1.1400	1.1203	1.0966	1.0701	1.0418	1.0130
	1.8671	1.8638	1.8541	1.8382	1.8171	1.7914	1.7622	1.7309	1.6985
0.75	1.2456	1.2467	1.2498	1.2548	1.2617	1.2701	1.2798	1.2905	1.3017
	0.2940	0.2952	0.2986	0.3042	0.3117	0.3209	0.3314	0.3428	0.3547
	0.0000	0.0249	0.0489	0.0712	0.0909	0.1073	0.1197	0.1277	0.1309
	1.1544	1.1514	1.1424	1.1279	1.1085	1.0853	1.0592	1.0313	1.0029
	1.8526	1.8494	1.8398	1.8243	1.8034	1.7782	1.7494	1.7185	1.6865
0.80	1.2537	1.2547	1.2578	1.2628	1.2695	1.2778	1.2874	1.2979	1.3091
	0.2838	0.2850	0.2885	0.2942	0.3019	0.3112	0.3220	0.3336	0.3458
	0.0000	0.0247	0.0486	0.0707	0.0902	0.1065	0.1188	0.1267	0.1299
	1.1413	1.1383	1.1295	1.1153	1.0963	1.0735	1.0478	1.0204	0.9923
	1.8376	1.8344	1.8250	1.8097	1.7893	1.7644	1.7361	1.7055	1.6738
0.85	1.2618	1.2628	1.2659	1.2708	1.2774	1.2856	1.2951	1.3055	1.3165
	0.2737	0.2749	0.2785	0.2843	0.2922	0.3017	0.3127	0.3245	0.3369
	0.0000	0.0246	0.0483	0.0703	0.0897	0.1058	0.1180	0.1258	0.1289
	1.1277	1.1248	1.1162	1.1022	1.0836	1.0612	1.0360	1.0090	0.9813
	1.8219	1.8188	1.8096	1.7946	1.7745	1.7500	1.7221	1.6919	1.6606
0.90	1.2701	1.2711	1.2741	1.2789	1.2855	1.2936	1.3030	1.3133	1.3242
	0.2637	0.2649	0.2686	0.2746	0.2826	0.2923	0.3034	0.3155	0.3280
	0.0000	0.0245	0.0481	0.0699	0.0892	0.1052	0.1173	0.1250	0.1279
	1.1136	1.1108	1.1023	1.0886	1.0704	1.0484	1.0236	0.9970	0.9697
	1.8056	1.8025	1.7935	1.7788	1.7590	1.7349	1.7074	1.6776	1.6466
0.95	1.2786	1.2796	1.2825	1.2873	1.2938	1.3018	1.3110	1.3213	1.3321
	0.2537	0.2550	0.2587	0.2648	0.2729	0.2829	0.2942	0.3064	0.3191
	0.0000	0.0244	0.0479	0.0696	0.0887	0.1046	0.1166	0.1242	0.1271
	1.0989	1.0961	1.0878	1.0744	1.0565	1.0349	1.0105	0.9844	0.9574
	1.7885	1.7855	1.7766	1.7621	1.7427	1.7190	1.6919	1.6624	1.6317
1.00	1.2873	1.2883	1.2912	1.2959	1.3023	1.3102	1.3194	1.3296	1.3404
	0.2437	0.2450	0.2488	0.2549	0.2632	0.2733	0.2848	0.2972	0.3100
	0.0000	0.0243	0.0477	0.0693	0.0884	0.1041	0.1160	0.1235	0.1264
	1.0834	1.0806	1.0725	1.0594	1.0419	1.0207	0.9967	0.9709	0.9443
	1.7704	1.7675	1.7588	1.7446	1.7254	1.7021	1.6753	1.6462	1.6157
F_x	0.8794	0.8802	0.8826	0.8864	0.8917	0.8983	0.9059	0.9145	0.9236

$$M_{\infty} = 2, \beta_{\kappa} = 25^{\circ}, \alpha = 5^{\circ}$$

ξ	θ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.00	1.1859 0.5530 0.1657 1.0630 1.7466	1.1982 0.5587 0.1581 1.0343 1.7128	1.2096 0.5641 0.1440 1.0095 1.6833	1.2198 0.5688 0.1238 0.9890 1.6588	1.2282 0.5727 0.0981 0.9731 1.6397	1.2344 0.5756 0.0680 0.9618 1.6261	1.2383 0.5774 0.0348 0.9551 1.6180	1.2552 0.5853 0.0000 0.9528 1.6340	1.2396 0.5781 0.0000 0.9528 1.6153
0.05	1.2039 0.5367 0.1620 1.0639 1.7579	1.2174 0.5437 0.1545 1.0351 1.7257	1.2301 0.5503 0.1407 1.0100 1.6977	1.2413 0.5563 0.1209 0.9892 1.6744	1.2507 0.5612 0.0958 0.9729 1.6563	1.2577 0.5649 0.0664 0.9613 1.6434	1.2620 0.5672 0.0340 0.9544 1.6357	1.2635 0.5680 0.0000 0.9521 1.6331	
0.10	1.2136 0.5187 0.1582 1.0630 1.7578	1.2268 0.5263 0.1509 1.0342 1.7255	1.2392 0.5333 0.1373 1.0089 1.6972	1.2501 0.5397 0.1179 0.9878 1.6734	1.2591 0.5450 0.0934 0.9713 1.6547	1.2659 0.5489 0.0647 0.9595 1.6413	1.2700 0.5514 0.0331 0.9524 1.6333	1.2715 0.5522 0.0000 0.9500 1.6305	
0.15	1.2226 0.5022 0.1547 1.0606 1.7555	1.2356 0.5102 0.1474 1.0318 1.7232	1.2477 0.5177 0.1340 1.0065 1.6947	1.2583 0.5245 0.1151 0.9853 1.6706	1.2671 0.5301 0.0911 0.9686 1.6516	1.2737 0.5343 0.0631 0.9566 1.6379	1.2777 0.5369 0.0323 0.9494 1.6296	1.2791 0.5378 0.0000 0.9470 1.6268	
0.20	1.2312 0.4869 0.1513 1.0571 1.7517	1.2439 0.4954 0.1441 1.0283 1.7194	1.2558 0.5033 0.1310 1.0030 1.6908	1.2662 0.5104 0.1124 0.9817 1.6665	1.2748 0.5163 0.0889 0.9649 1.6472	1.2812 0.5208 0.0616 0.9528 1.6333	1.2852 0.5235 0.0315 0.9455 1.6249	1.2865 0.5245 0.0000 0.9430 1.6220	
0.25	1.2394 0.4727 0.1483 1.0525 1.7466	1.2519 0.4816 0.1411 1.0239 1.7144	1.2636 0.4899 0.1282 0.9987 1.6857	1.2738 0.4974 0.1099 0.9773 1.6613	1.2822 0.5035 0.0870 0.9604 1.6419	1.2885 0.5082 0.0602 0.9482 1.6277	1.2924 0.5111 0.0308 0.9409 1.6192	1.2937 0.5121 0.0000 0.9384 1.6163	
0.30	1.2474 0.4595 0.1455 1.0472 1.7404	1.2597 0.4688 0.1384 1.0187 1.7084	1.2711 0.4775 0.1257 0.9935 1.6797	1.2812 0.4852 0.1077 0.9722 1.6552	1.2895 0.4916 0.0852 0.9553 1.6356	1.2957 0.4964 0.0589 0.9430 1.6214	1.2995 0.4995 0.0301 0.9357 1.6128	1.3008 0.5005 0.0000 0.9332 1.6099	
0.35	1.2551 0.4472 0.1429 1.0411 1.7334	1.2672 0.4568 0.1359 1.0129 1.7015	1.2785 0.4657 0.1233 0.9878 1.6728	1.2884 0.4737 0.1057 0.9665 1.6483	1.2966 0.4804 0.0835 0.9496 1.6287	1.3026 0.4854 0.0578 0.9373 1.6144	1.3064 0.4885 0.0295 0.9299 1.6057	1.3077 0.4895 0.0000 0.9274 1.6027	
0.40	1.2626 0.4355 0.1406 1.0345 1.7256	1.2746 0.4454 0.1336 1.0064 1.6939	1.2857 0.4547 0.1212 0.9815 1.6653	1.2955 0.4629 0.1038 0.9603 1.6408	1.3035 0.4698 0.0820 0.9434 1.6211	1.3095 0.4749 0.0567 0.9311 1.6067	1.3132 0.4781 0.0290 0.9237 1.5980	1.3145 0.4792 0.0000 0.9211 1.5950	
0.45	1.2700 0.4244 0.1385 1.0273 1.7171	1.2818 0.4346 0.1316 0.9995 1.6856	1.2928 0.4442 0.1193 0.9747 1.6571	1.3024 0.4526 0.1021 0.9536 1.6326	1.3104 0.4597 0.0807 0.9367 1.6130	1.3163 0.4650 0.0558 0.9244 1.5985	1.3199 0.4683 0.0285 0.9170 1.5898	1.3212 0.4694 0.0000 0.9145 1.5868	
0.50	1.2773 0.4139 0.1366 1.0196 1.7051	1.2889 0.4244 0.1297 0.9921 1.6767	1.2998 0.4342 0.1175 0.9674 1.6484	1.3093 0.4428 0.1006 0.9464 1.6239	1.3171 0.4500 0.0794 0.9296 1.6043	1.3230 0.4554 0.0549 0.9174 1.5898	1.3266 0.4588 0.0281 0.9099 1.5810	1.3278 0.4599 0.0000 0.9074 1.5780	

$$M_{\infty} = 2, \beta_k = 25^\circ, \alpha = 5^\circ$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.55	1.2845 0.4038 0.1348 1.0115 1.6985	1.2960 0.4146 0.1279 0.9842 1.6673	1.3067 0.4246 0.1159 0.9598 1.6391	1.3161 0.4334 0.0991 0.9389 1.6147	1.3239 0.4408 0.0783 0.9221 1.5950	1.3297 0.4463 0.0541 0.9099 1.5806	1.3333 0.4497 0.0276 0.9025 1.5718	1.3345 0.4509 0.0000 0.9000 1.5688	
0.60	1.2916 0.3941 0.1332 1.0010 1.6883	1.3030 0.4051 0.1264 0.9760 1.6574	1.3136 0.4153 0.1144 0.9517 1.6293	1.3229 0.4244 0.0979 0.9309 1.6050	1.3306 0.4318 0.0772 0.9143 1.5853	1.3364 0.4375 0.0534 0.9021 1.5709	1.3399 0.4409 0.0273 0.8947 1.5620	1.3412 0.4421 0.0000 0.8922 1.5591	
0.65	1.2988 0.3847 0.1318 0.9941 1.6776	1.3100 0.3959 0.1249 0.9673 1.6469	1.3205 0.4064 0.1131 0.9433 1.6190	1.3298 0.4155 0.0967 0.9226 1.5948	1.3374 0.4232 0.0763 0.9060 1.5751	1.3431 0.4288 0.0527 0.8939 1.5606	1.3466 0.4324 0.0269 0.8865 1.5518	1.3479 0.4336 0.0000 0.8840 1.5488	
0.70	1.3059 0.3756 0.1304 0.9848 1.6664	1.3170 0.3870 0.1236 0.9583 1.6359	1.3274 0.3976 0.1118 0.9344 1.6081	1.3366 0.4069 0.0956 0.9139 1.5840	1.3442 0.4147 0.0754 0.8974 1.5644	1.3499 0.4204 0.0521 0.8853 1.5499	1.3534 0.4240 0.0266 0.8779 1.5411	1.3546 0.4252 0.0000 0.8754 1.5381	
0.75	1.3131 0.3667 0.1292 0.9750 1.6547	1.3241 0.3783 0.1224 0.9488 1.6244	1.3344 0.3890 0.1107 0.9251 1.5967	1.3436 0.3985 0.0946 0.9047 1.5726	1.3512 0.4063 0.0746 0.8883 1.5531	1.3568 0.4121 0.0515 0.8762 1.5386	1.3603 0.4157 0.0263 0.8689 1.5297	1.3615 0.4170 0.0000 0.8664 1.5267	
0.80	1.3203 0.3579 0.1280 0.9648 1.6423	1.3313 0.3697 0.1212 0.9388 1.6123	1.3416 0.3806 0.1096 0.9154 1.5847	1.3507 0.3901 0.0936 0.8951 1.5607	1.3582 0.3986 0.0738 0.8787 1.5411	1.3639 0.4039 0.0510 0.8667 1.5266	1.3674 0.4075 0.0260 0.8594 1.5178	1.3686 0.4088 0.0000 0.8569 1.5148	
0.85	1.3277 0.3492 0.1270 0.9541 1.6293	1.3387 0.3612 0.1202 0.9284 1.5994	1.3489 0.3722 0.1087 0.9051 1.5720	1.3580 0.3818 0.0928 0.8849 1.5480	1.3655 0.3897 0.0732 0.8686 1.5284	1.3712 0.3957 0.0505 0.8566 1.5139	1.3747 0.3993 0.0258 0.8493 1.5050	1.3759 0.4005 0.0000 0.8468 1.5020	
0.90	1.3354 0.3405 0.1261 0.9428 1.6155	1.3462 0.3526 0.1193 0.9173 1.5858	1.3564 0.3637 0.1078 0.8942 1.5585	1.3655 0.3734 0.0920 0.8741 1.5345	1.3731 0.3814 0.0725 0.8579 1.5149	1.3788 0.3873 0.0501 0.8459 1.5003	1.3823 0.3910 0.0256 0.8386 1.4914	1.3835 0.3922 0.0000 0.8361 1.4884	
0.95	1.3432 0.3317 0.1252 0.9308 1.6009	1.3541 0.3439 0.1184 0.9056 1.5713	1.3643 0.3551 0.1070 0.8825 1.5440	1.3734 0.3648 0.0913 0.8625 1.5200	1.3810 0.3728 0.0719 0.8463 1.5003	1.3868 0.3787 0.0497 0.8343 1.4857	1.3903 0.3824 0.0254 0.8270 1.4767	1.3915 0.3836 0.0000 0.8245 1.4736	
1.00	1.3515 0.3228 0.1244 0.9179 1.5851	1.3624 0.3350 0.1176 0.8929 1.5556	1.3726 0.3462 0.1062 0.8700 1.5283	1.3818 0.3560 0.0906 0.8500 1.5042	1.3895 0.3639 0.0714 0.8337 1.4843	1.3953 0.3698 0.0493 0.8216 1.4695	1.3989 0.3734 0.0252 0.8143 1.4604	1.4002 0.3746 0.0000 0.8118 1.4573	
F_x	0.9331	0.9425	0.9514	0.9594	0.9662	0.9713	0.9745	0.9755	

$$M_{\infty} = 2, \beta_{\kappa} = 25^{\circ}, \alpha = 10^{\circ}$$

ξ	θ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.00	1.0232	1.0254	1.0319	1.0426	1.0571	1.0750	1.0960	1.1193	1.1441
	0.4771	0.4782	0.4812	0.4861	0.4929	0.5013	0.5111	0.5219	0.5335
	0.0000	0.0572	0.1129	0.1657	0.2143	0.2569	0.2922	0.3185	0.3339
	1.4774	1.4679	1.4400	1.3958	1.3383	1.2714	1.1995	1.1268	1.0575
	2.1886	2.1785	2.1489	2.1015	2.0393	1.9660	1.8859	1.8035	1.7236
0.05	1.0352	1.0375	1.0444	1.0557	1.0711	1.0902	1.1125	1.1374	1.1641
	0.4519	0.4531	0.4566	0.4624	0.4703	0.4801	0.4916	0.5044	0.5182
	0.0000	0.0561	0.1107	0.1624	0.2097	0.2511	0.2851	0.3101	0.3245
	1.4760	1.4667	1.4396	1.3964	1.3403	1.2748	1.2042	1.1327	1.0641
	2.1871	2.1775	2.1494	2.1044	2.0453	1.9756	1.8992	1.8206	1.7442
0.10	1.0466	1.0490	1.0559	1.0672	1.0826	1.1017	1.1240	1.1488	1.1753
	0.4289	0.4302	0.4340	0.4403	0.4490	0.4597	0.4722	0.4861	0.5012
	0.0000	0.0550	0.1086	0.1592	0.2054	0.2458	0.2787	0.3027	0.3164
	1.4722	1.4632	1.4367	1.3946	1.3397	1.2757	1.2064	1.1360	1.0682
	2.1831	2.1738	2.1466	2.1032	2.0459	1.9783	1.9040	1.8273	1.7523
0.15	1.0575	1.0598	1.0667	1.0780	1.0933	1.1123	1.1344	1.1589	1.1851
	0.4077	0.4091	0.4133	0.4201	0.4293	0.4409	0.4543	0.4693	0.4853
	0.0000	0.0541	0.1067	0.1564	0.2016	0.2409	0.2729	0.2961	0.3090
	1.4665	1.4577	1.4318	1.3907	1.3371	1.2745	1.2065	1.1372	1.0702
	2.1770	2.1681	2.1417	2.0996	2.0440	1.9781	1.9057	1.8306	1.7567
0.20	1.0680	1.0703	1.0771	1.0882	1.1034	1.1222	1.1440	1.1682	1.1940
	0.3882	0.3897	0.3941	0.4013	0.4112	0.4235	0.4378	0.4537	0.4707
	0.0000	0.0533	0.1050	0.1538	0.1981	0.2365	0.2676	0.2900	0.3023
	1.4592	1.4507	1.4254	1.3853	1.3329	1.2716	1.2049	1.1368	1.0706
	2.1693	2.1606	2.1351	2.0941	2.0400	1.9759	1.9051	1.8314	1.7586
0.25	1.0781	1.0803	1.0871	1.0981	1.1131	1.1316	1.1532	1.1770	1.2024
	0.3700	0.3716	0.3763	0.3840	0.3944	0.4074	0.4225	0.4393	0.4572
	0.0000	0.0525	0.1035	0.1515	0.1950	0.2326	0.2629	0.2845	0.2963
	1.4508	1.4424	1.4178	1.3786	1.3274	1.2673	1.2020	1.1349	1.0695
	2.1603	2.1519	2.1270	2.0872	2.0345	1.9719	1.9026	1.8303	1.7586
0.30	1.0878	1.0901	1.0967	1.1076	1.1224	1.1407	1.1619	1.1854	1.2104
	0.3530	0.3547	0.3596	0.3677	0.3788	0.3924	0.4083	0.4258	0.4446
	0.0000	0.0518	0.1021	0.1494	0.1921	0.2290	0.2586	0.2796	0.2908
	1.4412	1.4331	1.4091	1.3708	1.3207	1.2620	1.1978	1.1319	1.0674
	2.1502	2.1420	2.1178	2.0790	2.0277	1.9665	1.8987	1.8277	1.7569
0.35	1.0973	1.0995	1.1061	1.1168	1.1314	1.1494	1.1703	1.1935	1.2180
	0.3370	0.3388	0.3440	0.3525	0.3641	0.3784	0.3949	0.4133	0.4328
	0.0000	0.0512	0.1009	0.1475	0.1896	0.2258	0.2547	0.2751	0.2858
	1.4309	1.4229	1.3994	1.3621	1.3132	1.2556	1.1927	1.1279	1.0642
	2.1391	2.1311	2.1076	2.0698	2.0197	1.9600	1.8936	1.8238	1.7539
0.40	1.1065	1.1087	1.1152	1.1257	1.1401	1.1579	1.1785	1.2012	1.2254
	0.3220	0.3238	0.3293	0.3382	0.3502	0.3651	0.3824	0.4015	0.4217
	0.0000	0.0507	0.0998	0.1458	0.1874	0.2229	0.2513	0.2711	0.2813
	1.4197	1.4120	1.3891	1.3526	1.3048	1.2485	1.1868	1.1230	1.0602
	2.1272	2.1194	2.0965	2.0597	2.0108	1.9524	1.8874	1.8188	1.7498
0.45	1.1155	1.1177	1.1241	1.1345	1.1486	1.1661	1.1864	1.2088	1.2326
	0.3077	0.3096	0.3153	0.3246	0.3372	0.3527	0.3706	0.3904	0.4113
	0.0000	0.0502	0.0988	0.1443	0.1853	0.2203	0.2481	0.2674	0.2772
	1.4080	1.4004	1.3781	1.3425	1.2958	1.2406	1.1801	1.1174	1.0555
	2.1146	2.1071	2.0848	2.0489	2.0012	1.9440	1.8803	1.8128	1.7447
0.50	1.1244	1.1265	1.1328	1.1430	1.1569	1.1741	1.1941	1.2161	1.2396
	0.2941	0.2961	0.3020	0.3117	0.3247	0.3408	0.3594	0.3798	0.4014
	0.0000	0.0497	0.0979	0.1430	0.1835	0.2180	0.2453	0.2641	0.2734
	1.3957	1.3883	1.3666	1.3318	1.2861	1.2322	1.1728	1.1112	1.0502
	2.1014	2.0941	2.0723	2.0373	1.9908	1.9349	1.8724	1.8060	1.7389

$$M_{\infty} = 2, \beta_{\kappa} = 25^{\circ}, \alpha = 10^{\circ}$$

ξ	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.55	1.1331	1.1352	1.1413	1.1514	1.1651	1.1820	1.2016	1.2233	1.2464
	0.2812	0.2832	0.2894	0.2993	0.3129	0.3295	0.3487	0.3697	0.3920
	0.0000	0.0494	0.0971	0.1418	0.1819	0.2159	0.2427	0.2611	0.2700
	1.3829	1.3757	1.3545	1.3206	1.2759	1.2231	1.1650	1.1044	1.0443
	2.0877	2.0805	2.0593	2.0252	1.9797	1.9251	1.8637	1.7985	1.7322
0.60	1.1417	1.1437	1.1498	1.1597	1.1731	1.1897	1.2091	1.2304	1.2532
	0.2687	0.2709	0.2772	0.2875	0.3015	0.3187	0.3385	0.3601	0.3829
	0.0000	0.0490	0.0965	0.1407	0.1804	0.2140	0.2403	0.2583	0.2669
	1.3697	1.3627	1.3420	1.3089	1.2653	1.2136	1.1566	1.0971	1.0378
	2.0734	2.0664	2.0458	2.0125	1.9681	1.9146	1.8545	1.7903	1.7249
0.65	1.1502	1.1522	1.1581	1.1679	1.1811	1.1974	1.2164	1.2374	1.2599
	0.2568	0.2590	0.2655	0.2762	0.2906	0.3083	0.3286	0.3509	0.3742
	0.0000	0.0487	0.0959	0.1398	0.1791	0.2123	0.2382	0.2558	0.2641
	1.3561	1.3492	1.3290	1.2967	1.2541	1.2036	1.1478	1.0893	1.0309
	2.0586	2.0518	2.0317	1.9993	1.9559	1.9036	1.8446	1.7816	1.7170
0.70	1.1587	1.1606	1.1665	1.1760	1.1890	1.2050	1.2237	1.2444	1.2665
	0.2452	0.2475	0.2542	0.2652	0.2801	0.2983	0.3191	0.3420	0.3659
	0.0000	0.0485	0.0953	0.1390	0.1779	0.2108	0.2363	0.2536	0.2615
	1.3420	1.3353	1.3157	1.2842	1.2426	1.1932	1.1385	1.0811	1.0235
	2.0434	2.0367	2.0172	1.9855	1.9432	1.8920	1.8342	1.7722	1.7085
0.75	1.1671	1.1690	1.1747	1.1841	1.1968	1.2126	1.2309	1.2513	1.2732
	0.2339	0.2363	0.2432	0.2546	0.2698	0.2885	0.3099	0.3333	0.3577
	0.0000	0.0482	0.0949	0.1382	0.1769	0.2094	0.2346	0.2515	0.2592
	1.3275	1.3210	1.3019	1.2712	1.2306	1.1823	1.1287	1.0724	1.0157
	2.0276	2.0211	2.0021	1.9712	1.9299	1.8799	1.8232	1.7622	1.6994
0.80	1.1755	1.1774	1.1830	1.1922	1.2047	1.2202	1.2382	1.2583	1.2798
	0.2230	0.2254	0.2325	0.2442	0.2599	0.2790	0.3010	0.3249	0.3498
	0.0000	0.0481	0.0944	0.1376	0.1760	0.2082	0.2331	0.2496	0.2570
	1.3126	1.3063	1.2876	1.2577	1.2182	1.1710	1.1185	1.0632	1.0074
	2.0113	2.0050	1.9865	1.9564	1.9161	1.8672	1.8116	1.7517	1.6897
0.85	1.1840	1.1859	1.1913	1.2003	1.2126	1.2278	1.2455	1.2653	1.2866
	0.2122	0.2147	0.2220	0.2340	0.2501	0.2697	0.2922	0.3166	0.3419
	0.0000	0.0479	0.0941	0.1370	0.1752	0.2071	0.2317	0.2479	0.2551
	1.2973	1.2911	1.2730	1.2438	1.2053	1.1592	1.1078	1.0536	0.9987
	1.9945	1.9884	1.9703	1.9410	1.9017	1.8539	1.7994	1.7405	1.6794
0.90	1.1926	1.1944	1.1998	1.2085	1.2205	1.2355	1.2529	1.2724	1.2934
	0.2016	0.2042	0.2117	0.2240	0.2405	0.2606	0.2835	0.3084	0.3342
	0.0000	0.0478	0.0938	0.1366	0.1745	0.2062	0.2305	0.2464	0.2533
	1.2814	1.2754	1.2578	1.2295	1.1919	1.1469	1.0967	1.0434	0.9894
	1.9770	1.9711	1.9535	1.9251	1.8867	1.8400	1.7866	1.7287	1.6684
0.95	1.2013	1.2030	1.2083	1.2169	1.2286	1.2433	1.2604	1.2796	1.3004
	0.1911	0.1937	0.2015	0.2140	0.2309	0.2515	0.2749	0.3003	0.3265
	0.0000	0.0476	0.0936	0.1362	0.1739	0.2053	0.2294	0.2451	0.2517
	1.2650	1.2592	1.2421	1.2145	1.1779	1.1340	1.0849	1.0328	0.9796
	1.9589	1.9531	1.9361	1.9084	1.8710	1.8254	1.7731	1.7162	1.6567
1.00	1.2102	1.2119	1.2170	1.2254	1.2369	1.2513	1.2681	1.2870	1.3076
	0.1807	0.1833	0.1913	0.2041	0.2214	0.2424	0.2663	0.2922	0.3188
	0.0000	0.0476	0.0934	0.1358	0.1734	0.2046	0.2284	0.2438	0.2502
	1.2479	1.2423	1.2257	1.1989	1.1633	1.1206	1.0726	1.0214	0.9691
	1.9400	1.9344	1.9179	1.8909	1.8545	1.8100	1.7588	1.7029	1.6441
F_x	0.8574	0.8588	0.8631	0.8701	0.8799	0.8924	0.9072	0.9243	0.9430

$$M_{\infty} = 2, \beta_{\kappa} = 25^{\circ}, \alpha = 10^{\circ}$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.00	1.1697 0.5454 0.3371 0.9950 1.6502	1.1949 0.5572 0.3263 0.9419 1.5868	1.2188 0.5683 0.3011 0.8996 1.5356	1.2402 0.5783 0.2612 0.8681 1.4969	1.2580 0.5866 0.2083 0.8463 1.4700	1.2714 0.5928 0.1446 0.8326 1.4530	1.2796 0.5967 0.0743 0.8253 1.4439	1.3119 0.6117 0.0000 0.8230 1.4753	1.2824 0.5980 0.0000 0.8230 1.4410
0.05	1.1917 0.5326 0.3269 1.0018 1.6739	1.2192 0.5470 0.3159 0.9483 1.6131	1.2454 0.5609 0.2911 0.9050 1.5638	1.2692 0.5737 0.2525 0.8721 1.5269	1.2893 0.5847 0.2016 0.8488 1.5014	1.3046 0.5931 0.1404 0.8336 1.4856	1.3141 0.5984 0.0722 0.8253 1.4774	1.3175 0.6001 0.0000 0.8225 1.4748	
0.10	1.2026 0.5167 0.3183 1.0062 1.6827	1.2296 0.5323 0.3074 0.9525 1.6218	1.2551 0.5474 0.2830 0.9084 1.5716	1.2779 0.5611 0.2454 0.8744 1.5328	1.2970 0.5729 0.1959 0.8498 1.5050	1.3112 0.5818 0.1365 0.8335 1.4867	1.3199 0.5875 0.0701 0.8243 1.4765	1.3230 0.5893 0.0000 0.8213 1.4731	
0.15	1.2119 0.5020 0.3105 1.0086 1.6878	1.2384 0.5186 0.2995 0.9547 1.6267	1.2632 0.5346 0.2755 0.9102 1.5756	1.2853 0.5492 0.2387 0.8752 1.5354	1.3036 0.5617 0.1903 0.8496 1.5058	1.3172 0.5712 0.1325 0.8324 1.4858	1.3255 0.5773 0.0680 0.8226 1.4744	1.3284 0.5792 0.0000 0.8193 1.4706	
0.20	1.2204 0.4883 0.3034 1.0094 1.6902	1.2463 0.5058 0.2923 0.9555 1.6291	1.2706 0.5227 0.2685 0.9106 1.5773	1.2921 0.5381 0.2324 0.8749 1.5359	1.3098 0.5512 0.1852 0.8485 1.5050	1.3230 0.5613 0.1288 0.8305 1.4837	1.3310 0.5677 0.0661 0.8202 1.4714	1.3338 0.5698 0.0000 0.8167 1.4673	
0.25	1.2284 0.4756 0.2969 1.0088 1.6907	1.2538 0.4940 0.2857 0.9551 1.6295	1.2776 0.5116 0.2622 0.9098 1.5772	1.2986 0.5277 0.2267 0.8737 1.5349	1.3159 0.5414 0.1805 0.8466 1.5029	1.3287 0.5519 0.1255 0.8280 1.4806	1.3365 0.5586 0.0644 0.8172 1.4677	1.3392 0.5608 0.0000 0.8136 1.4633	
0.30	1.2359 0.4638 0.2911 1.0072 1.6895	1.2609 0.4830 0.2797 0.9536 1.6284	1.2842 0.5013 0.2565 0.9082 1.5758	1.3048 0.5180 0.2216 0.8716 1.5327	1.3217 0.5322 0.1763 0.8440 1.4998	1.3343 0.5431 0.1225 0.8249 1.4768	1.3419 0.5500 0.0628 0.8138 1.4633	1.3445 0.5523 0.0000 0.8101 1.4587	
0.35	1.2431 0.4528 0.2858 1.0046 1.6871	1.2677 0.4727 0.2743 0.9512 1.6261	1.2906 0.4916 0.2513 0.9057 1.5732	1.3109 0.5088 0.2169 0.8688 1.5295	1.3275 0.5235 0.1725 0.8408 1.4959	1.3398 0.5347 0.1198 0.8213 1.4722	1.3473 0.5418 0.0614 0.8099 1.4583	1.3499 0.5442 0.0000 0.8060 1.4536	
0.40	1.2501 0.4424 0.2809 1.0012 1.6836	1.2743 0.4629 0.2694 0.9480 1.6227	1.2968 0.4824 0.2465 0.9025 1.5696	1.3168 0.5001 0.2127 0.8654 1.5255	1.3331 0.5152 0.1690 0.8371 1.4913	1.3453 0.5267 0.1173 0.8172 1.4670	1.3527 0.5339 0.0601 0.8055 1.4527	1.3553 0.5364 0.0000 0.8016 1.4478	
0.45	1.2569 0.4327 0.2766 0.9971 1.6794	1.2807 0.4538 0.2649 0.9442 1.6185	1.3030 0.4738 0.2422 0.8987 1.5652	1.3226 0.4919 0.2088 0.8615 1.5207	1.3388 0.5072 0.1658 0.8328 1.4860	1.3508 0.5190 0.1151 0.8126 1.4613	1.3581 0.5264 0.0590 0.8008 1.4466	1.3607 0.5289 0.0000 0.7968 1.4416	
0.50	1.2635 0.4234 0.2725 0.9923 1.6738	1.2870 0.4450 0.2609 0.9399 1.6134	1.3090 0.4655 0.2383 0.8944 1.5601	1.3284 0.4840 0.2053 0.8570 1.5153	1.3444 0.4996 0.1630 0.8281 1.4801	1.3553 0.5116 0.1131 0.8077 1.4550	1.3636 0.5191 0.0579 0.7957 1.4400	1.3661 0.5216 0.0000 0.7916 1.4349	

$$M_{\infty} = 2, \beta_{\kappa} = 25^{\circ}, \alpha = 10^{\circ}$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.55	1.2701 0.4145 0.2689 0.9870 1.6678	1.2932 0.4367 0.2571 0.9349 1.6077	1.3149 0.4576 0.2347 0.8896 1.5543	1.3342 0.4764 0.2021 0.8521 1.5092	1.3501 0.4923 0.1603 0.8230 1.4737	1.3619 0.5044 0.1112 0.8024 1.4482	1.3691 0.5120 0.0570 0.7902 1.4329	1.3716 0.5145 0.0000 0.7861 1.4278	
0.60	1.2765 0.4060 0.2656 0.9813 1.6610	1.2994 0.4287 0.2537 0.9295 1.6012	1.3209 0.4500 0.2314 0.8843 1.5478	1.3400 0.4691 0.1991 0.8468 1.5026	1.3558 0.4851 0.1579 0.8175 1.4667	1.3675 0.4973 0.1095 0.7967 1.4408	1.3747 0.5050 0.0561 0.7843 1.4253	1.3772 0.5076 0.0000 0.7802 1.4201	
0.65	1.2829 0.3979 0.2625 0.9750 1.6537	1.3055 0.4209 0.2506 0.9237 1.5942	1.3268 0.4426 0.2284 0.8786 1.5408	1.3458 0.4619 0.1964 0.8410 1.4953	1.3615 0.4782 0.1557 0.8116 1.4592	1.3732 0.4905 0.1080 0.7906 1.4330	1.3804 0.4982 0.0553 0.7781 1.4172	1.3829 0.5008 0.0000 0.7739 1.4119	
0.70	1.2893 0.3900 0.2597 0.9683 1.6458	1.3117 0.4134 0.2477 0.9173 1.5866	1.3328 0.4354 0.2256 0.8725 1.5332	1.3517 0.4549 0.1939 0.8348 1.4875	1.3673 0.4713 0.1537 0.8053 1.4511	1.3791 0.4837 0.1065 0.7841 1.4245	1.3863 0.4914 0.0545 0.7715 1.4086	1.3888 0.4940 0.0000 0.7672 1.4032	
0.75	1.2956 0.3823 0.2571 0.9611 1.6373	1.3179 0.4061 0.2450 0.9106 1.5784	1.3389 0.4283 0.2230 0.8659 1.5250	1.3577 0.4481 0.1916 0.8282 1.4792	1.3733 0.4645 0.1518 0.7985 1.4424	1.3851 0.4769 0.1052 0.7771 1.4155	1.3923 0.4847 0.0538 0.7644 1.3993	1.3948 0.4873 0.0000 0.7600 1.3938	
0.80	1.3020 0.3747 0.2548 0.9535 1.6282	1.3241 0.3989 0.2426 0.9034 1.5696	1.3450 0.4214 0.2207 0.8588 1.5162	1.3638 0.4412 0.1895 0.8211 1.4702	1.3795 0.4577 0.1501 0.7912 1.4330	1.3913 0.4701 0.1040 0.7697 1.4058	1.3986 0.4779 0.0532 0.7567 1.3894	1.4011 0.4805 0.0000 0.7524 1.3838	
0.85	1.3086 0.3673 0.2526 0.9454 1.6184	1.3304 0.3918 0.2404 0.8956 1.5601	1.3513 0.4144 0.2185 0.8512 1.5068	1.3701 0.4344 0.1875 0.8135 1.4604	1.3859 0.4509 0.1484 0.7834 1.4229	1.3978 0.4633 0.1028 0.7616 1.3953	1.4052 0.4710 0.0526 0.7485 1.3786	1.4078 0.4735 0.0000 0.7441 1.3729	
0.90	1.3152 0.3600 0.2506 0.9368 1.6080	1.3370 0.3847 0.2383 0.8874 1.5499	1.3578 0.4075 0.2164 0.8431 1.4966	1.3767 0.4275 0.1856 0.8052 1.4499	1.3926 0.4439 0.1469 0.7749 1.4119	1.4047 0.4562 0.1018 0.7528 1.3838	1.4123 0.4638 0.0521 0.7395 1.3667	1.4149 0.4663 0.0000 0.7350 1.3609	
0.95	1.3220 0.3526 0.2488 0.9276 1.5968	1.3437 0.3776 0.2364 0.8786 1.5390	1.3646 0.4005 0.2146 0.8343 1.4855	1.3836 0.4204 0.1839 0.7963 1.4384	1.3998 0.4367 0.1455 0.7656 1.3998	1.4122 0.4488 0.1008 0.7432 1.3711	1.4199 0.4562 0.0516 0.7295 1.3535	1.4226 0.4587 0.0000 0.7249 1.3475	
1.00	1.3290 0.3452 0.2472 0.9177 1.5848	1.3507 0.3703 0.2346 0.8690 1.5271	1.3717 0.3932 0.2128 0.8247 1.4733	1.3911 0.4130 0.1823 0.7864 1.4257	1.4076 0.4290 0.1442 0.7552 1.3862	1.4204 0.4408 0.0998 0.7322 1.3567	1.4285 0.4480 0.0511 0.7182 1.3384	1.4313 0.4504 0.0000 0.7134 1.3322	
F_x	0.9630	0.9834	1.0033	1.0218	1.0377	1.0499	1.0577	1.0603	

$$M_{\infty} = 2, \beta_{\kappa} = 30^{\circ}, \alpha = 2^{\circ}30'$$

ξ	θ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.00	0.9951	0.9957	0.9976	1.0006	1.0047	1.0097	1.0155	1.0217	1.0283
	0.5745	0.5749	0.5760	0.5777	0.5801	0.5830	0.5863	0.5899	0.5937
	0.0000	0.0148	0.0291	0.0423	0.0540	0.0638	0.0712	0.0760	0.0779
	1.4328	1.4308	1.4249	1.4153	1.4025	1.3872	1.3700	1.3517	1.3331
	2.1433	2.1411	2.1348	2.1245	2.1108	2.0943	2.0757	2.0558	2.0356
0.05	1.0075	1.0082	1.0104	1.0140	1.0188	1.0246	1.0314	1.0388	1.0466
	0.5536	0.5540	0.5554	0.5576	0.5605	0.5642	0.5683	0.5729	0.5777
	0.0000	0.0148	0.0290	0.0422	0.0539	0.0636	0.0711	0.0758	0.0778
	1.4316	1.4296	1.4237	1.4142	1.4015	1.3863	1.3692	1.3509	1.3324
	2.1420	2.1400	2.1341	2.1247	2.1121	2.0969	2.0798	2.0616	2.0431
0.10	1.0192	1.0200	1.0221	1.0257	1.0304	1.0363	1.0429	1.0503	1.0579
	0.5345	0.5350	0.5364	0.5387	0.5418	0.5456	0.5500	0.5548	0.5598
	0.0000	0.0146	0.0287	0.0418	0.0534	0.0630	0.0703	0.0751	0.0770
	1.4283	1.4264	1.4205	1.4111	1.3985	1.3834	1.3664	1.3483	1.3298
	2.1385	2.1365	2.1308	2.1214	2.1090	2.0940	2.0771	2.0591	2.0406
0.15	1.0305	1.0312	1.0333	1.0368	1.0415	1.0473	1.0539	1.0611	1.0686
	0.5170	0.5175	0.5190	0.5214	0.5247	0.5287	0.5332	0.5382	0.5434
	0.0000	0.0145	0.0284	0.0413	0.0527	0.0622	0.0695	0.0741	0.0760
	1.4234	1.4214	1.4156	1.4063	1.3938	1.3789	1.3620	1.3440	1.3256
	2.1332	2.1313	2.1256	2.1164	2.1041	2.0892	2.0725	2.0546	2.0363
0.20	1.0412	1.0419	1.0441	1.0475	1.0521	1.0578	1.0643	1.0714	1.0789
	0.5010	0.5015	0.5030	0.5055	0.5089	0.5130	0.5178	0.5229	0.5283
	0.0000	0.0143	0.0280	0.0408	0.0521	0.0615	0.0686	0.0732	0.0750
	1.4171	1.4152	1.4094	1.4002	1.3879	1.3730	1.3563	1.3385	1.3202
	2.1264	2.1245	2.1189	2.1098	2.0977	2.0830	2.0665	2.0487	2.0305
0.25	1.0516	1.0523	1.0544	1.0578	1.0624	1.0680	1.0744	1.0814	1.0887
	0.4860	0.4866	0.4882	0.4908	0.4942	0.4985	0.5034	0.5087	0.5143
	0.0000	0.0141	0.0277	0.0403	0.0514	0.0607	0.0678	0.0723	0.0741
	1.4097	1.4078	1.4021	1.3930	1.3808	1.3661	1.3496	1.3319	1.3138
	2.1185	2.1166	2.1111	2.1021	2.0901	2.0756	2.0592	2.0416	2.0236
0.30	1.0616	1.0623	1.0644	1.0677	1.0722	1.0778	1.0841	1.0910	1.0982
	0.4722	0.4727	0.4743	0.4770	0.4806	0.4850	0.4901	0.4955	0.5013
	0.0000	0.0139	0.0274	0.0398	0.0509	0.0600	0.0670	0.0714	0.0732
	1.4014	1.3995	1.3939	1.3849	1.3729	1.3584	1.3420	1.3245	1.3065
	2.1096	2.1078	2.1023	2.0934	2.0816	2.0672	2.0510	2.0336	2.0156
0.35	1.0713	1.0720	1.0740	1.0773	1.0818	1.0873	1.0935	1.1003	1.1074
	0.4591	0.4597	0.4614	0.4641	0.4678	0.4724	0.4775	0.4832	0.4891
	0.0000	0.0138	0.0271	0.0394	0.0503	0.0594	0.0662	0.0706	0.0723
	1.3924	1.3905	1.3850	1.3761	1.3642	1.3498	1.3336	1.3163	1.2985
	2.0999	2.0980	2.0926	2.0839	2.0722	2.0580	2.0419	2.0247	2.0069
0.40	1.0808	1.0814	1.0834	1.0867	1.0911	1.0965	1.1027	1.1094	1.1164
	0.4469	0.4475	0.4492	0.4520	0.4558	0.4605	0.4658	0.4716	0.4776
	0.0000	0.0136	0.0268	0.0390	0.0498	0.0588	0.0655	0.0699	0.0715
	1.3827	1.3808	1.3754	1.3666	1.3548	1.3407	1.3247	1.3075	1.2899
	2.0894	2.0876	2.0823	2.0736	2.0621	2.0481	2.0322	2.0150	1.9974
0.45	1.0900	1.0907	1.0926	1.0959	1.1002	1.1055	1.1116	1.1182	1.1252
	0.4354	0.4360	0.4377	0.4406	0.4445	0.4492	0.4547	0.4606	0.4667
	0.0000	0.0135	0.0266	0.0387	0.0493	0.0582	0.0649	0.0692	0.0708
	1.3724	1.3706	1.3652	1.3565	1.3450	1.3309	1.3151	1.2981	1.2807
	2.0783	2.0765	2.0713	2.0628	2.0513	2.0375	2.0218	2.0048	1.9873
0.50	1.0990	1.0997	1.1016	1.1048	1.1091	1.1144	1.1204	1.1269	1.1338
	0.4244	0.4250	0.4268	0.4298	0.4337	0.4386	0.4441	0.4502	0.4564
	0.0000	0.0134	0.0264	0.0383	0.0489	0.0577	0.0643	0.0685	0.0701
	1.3617	1.3599	1.3546	1.3460	1.3346	1.3208	1.3051	1.2883	1.2711
	2.0667	2.0649	2.0597	2.0513	2.0401	2.0264	2.0108	1.9940	1.9766

$$M_{\infty} = 2, \beta_k = 30^\circ, \alpha = 2^\circ 30'$$

ξ	θ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.55	1.1079 0.4140 0.0000 1.3505 2.0545	1.1086 0.4146 0.0133 1.3487 2.0528	1.1105 0.4164 0.0261 1.3435 2.0477	1.1136 0.4195 0.0380 1.3351 2.0394	1.1179 0.4235 0.0485 1.3278 2.0283	1.1230 0.4284 0.0572 1.3101 2.0147	1.1290 0.4341 0.0637 1.2947 1.9993	1.1355 0.4402 0.0679 1.2781 1.9827	1.1422 0.4466 0.0695 1.2610 1.9655
0.60	1.1167 0.4040 0.0000 1.3389 2.0419	1.1173 0.4046 0.0132 1.3371 2.0402	1.1192 0.4065 0.0259 1.3320 2.0352	1.1223 0.4096 0.0377 1.3237 2.0270	1.1265 0.4137 0.0481 1.3126 2.0160	1.1316 0.4187 0.0567 1.2991 2.0026	1.1375 0.4245 0.0632 1.2838 1.9874	1.1439 0.4307 0.0673 1.2674 1.9709	1.1506 0.4372 0.0689 1.2506 1.9539
0.65	1.1253 0.3944 0.0000 1.3269 2.0289	1.1260 0.3951 0.0131 1.3252 2.0272	1.1278 0.3970 0.0258 1.3202 2.0222	1.1309 0.4001 0.0375 1.3120 2.0141	1.1350 0.4043 0.0478 1.3010 2.0033	1.1401 0.4094 0.0563 1.2877 1.9901	1.1459 0.4153 0.0627 1.2726 1.9750	1.1522 0.4216 0.0668 1.2564 1.9587	1.1588 0.4282 0.0683 1.2397 1.9418
0.70	1.1339 0.3852 0.0000 1.3146 2.0154	1.1345 0.3858 0.0130 1.3129 2.0138	1.1364 0.3878 0.0256 1.3079 2.0088	1.1394 0.3910 0.0372 1.2999 2.0009	1.1435 0.3952 0.0474 1.2890 1.9901	1.1485 0.4004 0.0559 1.2759 1.9771	1.1542 0.4064 0.0623 1.2610 1.9622	1.1605 0.4128 0.0663 1.2450 1.9460	1.1670 0.4195 0.0678 1.2285 1.9293
0.75	1.1424 0.3763 0.0000 1.3019 2.0015	1.1431 0.3769 0.0130 1.3003 1.9999	1.1449 0.3789 0.0254 1.2953 1.9950	1.1479 0.3821 0.0370 1.2874 1.9871	1.1519 0.3864 0.0471 1.2767 1.9765	1.1569 0.3917 0.0556 1.2638 1.9636	1.1625 0.3977 0.0619 1.2491 1.9489	1.1687 0.4043 0.0659 1.2333 1.9329	1.1752 0.4111 0.0673 1.2170 1.9163
0.80	1.1510 0.3676 0.0000 1.2889 1.9872	1.1516 0.3682 0.0129 1.2872 1.9855	1.1534 0.3703 0.0253 1.2824 1.9807	1.1563 0.3735 0.0368 1.2745 1.9730	1.1603 0.3779 0.0469 1.2640 1.9625	1.1652 0.3832 0.0552 1.2513 1.9497	1.1708 0.3893 0.0615 1.2368 1.9352	1.1770 0.3960 0.0654 1.2212 1.9193	1.1834 0.4028 0.0669 1.2050 1.9029
0.85	1.1595 0.3591 0.0000 1.2754 1.9723	1.1601 0.3598 0.0128 1.2738 1.9707	1.1619 0.3618 0.0252 1.2690 1.9660	1.1648 0.3651 0.0366 1.2613 1.9583	1.1688 0.3696 0.0466 1.2509 1.9480	1.1736 0.3750 0.0549 1.2383 1.9353	1.1792 0.3811 0.0611 1.2241 1.9209	1.1853 0.3878 0.0650 1.2086 1.9053	1.1916 0.3948 0.0665 1.1927 1.8890
0.90	1.1681 0.3508 0.0000 1.2615 1.9570	1.1687 0.3515 0.0128 1.2600 1.9554	1.1705 0.3535 0.0250 1.2553 1.9507	1.1734 0.3569 0.0364 1.2476 1.9431	1.1773 0.3614 0.0464 1.2374 1.9329	1.1821 0.3668 0.0546 1.2250 1.9204	1.1876 0.3731 0.0608 1.2109 1.9062	1.1936 0.3798 0.0647 1.1957 1.8907	1.1999 0.3869 0.0661 1.1799 1.8745
0.95	1.1768 0.3425 0.0000 1.2472 1.9410	1.1774 0.3432 0.0127 1.2456 1.9395	1.1792 0.3453 0.0249 1.2410 1.9349	1.1820 0.3487 0.0362 1.2335 1.9274	1.1859 0.3533 0.0462 1.2234 1.9173	1.1907 0.3588 0.0544 1.2112 1.9049	1.1961 0.3651 0.0605 1.1972 1.8908	1.2021 0.3719 0.0643 1.1822 1.8754	1.2084 0.3790 0.0657 1.1666 1.8594
1.00	1.1857 0.3344 0.0000 1.2323 1.9245	1.1863 0.3351 0.0127 1.2308 1.9229	1.1880 0.3372 0.0248 1.2262 1.9184	1.1909 0.3406 0.0361 1.2188 1.9110	1.1947 0.3452 0.0460 1.2089 1.9010	1.1994 0.3508 0.0541 1.1968 1.8888	1.2048 0.3572 0.0602 1.1830 1.8748	1.2108 0.3640 0.0640 1.1682 1.8595	1.2170 0.3712 0.0654 1.1527 1.8436
F_x	1.0990	1.0993	1.1003	1.1019	1.1041	1.1067	1.1098	1.1131	1.1165

$$M_{\infty} = 2, \beta_k = 30^\circ, \alpha = 2^\circ 30'$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.00	1.0349	1.0412	1.0471	1.0523	1.0566	1.0598	1.0617	1.0766	1.0624
	0.5975	0.6011	0.6045	0.6075	0.6100	0.6118	0.6130	0.6216	0.6134
	0.0769	0.0728	0.0658	0.0562	0.0443	0.0306	0.0156	0.0000	0.0000
	1.3149	1.2978	1.2825	1.2693	1.2587	1.2510	1.2462	1.2446	1.2446
0.05	2.0157	1.9970	1.9801	1.9656	1.9538	1.9452	1.9400	1.9559	1.9382
	1.0544	1.0620	1.0691	1.0753	1.0805	1.0844	1.0868	1.0876	
	0.5825	0.5872	0.5916	0.5954	0.5986	0.6010	0.6025	0.6030	
	0.0767	0.0726	0.0657	0.0561	0.0443	0.0306	0.0156	0.0000	
0.10	1.3142	1.2971	1.2817	1.2685	1.2578	1.2500	1.2453	1.2436	
	2.0250	2.0079	1.9926	1.9794	1.9688	1.9610	1.9563	1.9547	
	1.0656	1.0731	1.0800	1.0861	1.0911	1.0949	1.0972	1.0980	
	0.5649	0.5698	0.5743	0.5783	0.5816	0.5841	0.5856	0.5861	
0.15	0.0759	0.0719	0.0651	0.0556	0.0438	0.0303	0.0155	0.0000	
	1.3117	1.2946	1.2792	1.2659	1.2552	1.2474	1.2426	1.2409	
	2.0225	2.0055	1.9900	1.9767	1.9660	1.9581	1.9533	1.9517	
	1.0762	1.0835	1.0903	1.0963	1.1013	1.1049	1.1072	1.1080	
0.20	0.5487	0.5538	0.5585	0.5626	0.5661	0.5686	0.5702	0.5707	
	0.0750	0.0710	0.0642	0.0549	0.0433	0.0299	0.0153	0.0000	
	1.3076	1.2906	1.2752	1.2619	1.2512	1.2433	1.2385	1.2369	
	2.0183	2.0012	1.9857	1.9724	1.9616	1.9536	1.9488	1.9471	
0.25	1.0863	1.0935	1.1002	1.1061	1.1109	1.1146	1.1168	1.1175	
	0.5338	0.5390	0.5439	0.5482	0.5518	0.5544	0.5560	0.5566	
	0.0740	0.0701	0.0634	0.0541	0.0427	0.0295	0.0151	0.0000	
	1.3023	1.2853	1.2700	1.2568	1.2460	1.2382	1.2334	1.2317	
0.30	2.0126	1.9955	1.9801	1.9667	1.9559	1.9479	1.9430	1.9413	
	1.0961	1.1032	1.1097	1.1155	1.1203	1.1238	1.1260	1.1268	
	0.5199	0.5254	0.5304	0.5348	0.5385	0.5412	0.5429	0.5434	
	0.0730	0.0691	0.0625	0.0534	0.0421	0.0291	0.0148	0.0000	
0.35	1.2960	1.2791	1.2638	1.2506	1.2400	1.2321	1.2273	1.2257	
	2.0057	1.9887	1.9733	1.9599	1.9491	1.9411	1.9362	1.9345	
	1.1055	1.1125	1.1189	1.1246	1.1293	1.1328	1.1350	1.1357	
	0.5071	0.5126	0.5178	0.5223	0.5261	0.5289	0.5306	0.5312	
0.40	0.0721	0.0683	0.0617	0.0527	0.0415	0.0287	0.0146	0.0000	
	1.2888	1.2721	1.2569	1.2437	1.2331	1.2253	1.2205	1.2188	
	1.9979	1.9810	1.9656	1.9522	1.9414	1.9334	1.9285	1.9268	
	1.1146	1.1215	1.1279	1.1335	1.1381	1.1416	1.1437	1.1444	
0.45	0.4950	0.5007	0.5060	0.5107	0.5145	0.5174	0.5191	0.5197	
	0.0713	0.0674	0.0609	0.0520	0.0410	0.0283	0.0145	0.0000	
	1.2809	1.2643	1.2492	1.2362	1.2256	1.2178	1.2130	1.2114	
	1.9892	1.9724	1.9571	1.9438	1.9329	1.9249	1.9200	1.9183	
0.50	1.1235	1.1303	1.1366	1.1421	1.1467	1.1501	1.1522	1.1529	
	0.4836	0.4895	0.4949	0.4997	0.5036	0.5065	0.5083	0.5089	
	0.0705	0.0667	0.0602	0.0514	0.0405	0.0280	0.0143	0.0000	
	1.2725	1.2560	1.2410	1.2280	1.2175	1.2097	1.2049	1.2033	
0.55	1.9799	1.9632	1.9479	1.9346	1.9238	1.9158	1.9109	1.9092	
	1.1321	1.1389	1.1451	1.1506	1.1551	1.1584	1.1605	1.1612	
	0.4729	0.4789	0.4844	0.4893	0.4933	0.4963	0.4981	0.4987	
	0.0697	0.0659	0.0596	0.0508	0.0401	0.0276	0.0141	0.0000	
0.60	1.2635	1.2471	1.2322	1.2193	1.2089	1.2011	1.1964	1.1948	
	1.9699	1.9533	1.9381	1.9249	1.9141	1.9061	1.9012	1.8996	
	1.1407	1.1473	1.1535	1.1589	1.1633	1.1666	1.1687	1.1694	
	0.4627	0.4688	0.4745	0.4794	0.4835	0.4865	0.4884	0.4890	
0.65	0.0690	0.0653	0.0590	0.0503	0.0396	0.0273	0.0140	0.0000	
	1.2540	1.2378	1.2230	1.2102	1.1998	1.1921	1.1874	1.1858	
	1.9594	1.9429	1.9278	1.9146	1.9039	1.8959	1.8911	1.8894	

$$M_{\infty} = 2, \beta_K = 30^\circ, \alpha = 2^\circ 30'$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.55	1.1490	1.1556	1.1617	1.1670	1.1714	1.1747	1.1767	1.1774	
	0.4530	0.4592	0.4650	0.4700	0.4741	0.4772	0.4791	0.4797	
	0.0684	0.0647	0.0584	0.0498	0.0392	0.0271	0.0138	0.0000	
	1.2441	1.2281	1.2134	1.2007	1.1904	1.1828	1.1781	1.1765	
	1.9484	1.9320	1.9170	1.9039	1.8932	1.8853	1.8804	1.8787	
0.60	1.1573	1.1638	1.1698	1.1751	1.1795	1.1827	1.1847	1.1854	
	0.4438	0.4500	0.4559	0.4610	0.4652	0.4683	0.4702	0.4709	
	0.0678	0.0641	0.0579	0.0493	0.0389	0.0268	0.0137	0.0000	
	1.2338	1.2179	1.2034	1.1908	1.1806	1.1730	1.1683	1.1667	
	1.9369	1.9206	1.9057	1.8927	1.8820	1.8741	1.8693	1.8676	
0.65	1.1655	1.1719	1.1779	1.1831	1.1874	1.1907	1.1927	1.1933	
	0.4348	0.4412	0.4471	0.4523	0.4565	0.4597	0.4616	0.4623	
	0.0672	0.0635	0.0574	0.0489	0.0385	0.0266	0.0136	0.0000	
	1.2232	1.2074	1.1930	1.1805	1.1704	1.1628	1.1582	1.1566	
	1.9250	1.9088	1.8940	1.8810	1.8704	1.8625	1.8577	1.8560	
0.70	1.1736	1.1800	1.1859	1.1911	1.1954	1.1986	1.2006	1.2012	
	0.4262	0.4327	0.4386	0.4439	0.4482	0.4514	0.4534	0.4540	
	0.0667	0.0630	0.0569	0.0485	0.0382	0.0263	0.0134	0.0000	
	1.2122	1.1966	1.1823	1.1699	1.1598	1.1523	1.1477	1.1462	
	1.9126	1.8965	1.8818	1.8689	1.8583	1.8505	1.8457	1.8440	
0.75	1.1817	1.1881	1.1939	1.1991	1.2033	1.2065	1.2085	1.2091	
	0.4179	0.4244	0.4304	0.4357	0.4401	0.4433	0.4453	0.4460	
	0.0662	0.0626	0.0565	0.0481	0.0379	0.0261	0.0133	0.0000	
	1.2008	1.1853	1.1712	1.1589	1.1489	1.1414	1.1369	1.1353	
	1.8997	1.8838	1.8692	1.8563	1.8458	1.8380	1.8332	1.8316	
0.80	1.1899	1.1961	1.2020	1.2071	1.2113	1.2145	1.2164	1.2171	
	0.4097	0.4163	0.4224	0.4277	0.4322	0.4354	0.4374	0.4381	
	0.0658	0.0621	0.0560	0.0478	0.0376	0.0259	0.0132	0.0000	
	1.1890	1.1737	1.1597	1.1475	1.1375	1.1302	1.1256	1.1241	
	1.8864	1.8706	1.8560	1.8433	1.8328	1.8250	1.8202	1.8186	
0.85	1.1980	1.2043	1.2101	1.2152	1.2193	1.2225	1.2244	1.2251	
	0.4017	0.4084	0.4145	0.4199	0.4244	0.4277	0.4297	0.4304	
	0.0654	0.0617	0.0557	0.0474	0.0373	0.0257	0.0131	0.0000	
	1.1768	1.1617	1.1478	1.1357	1.1258	1.1185	1.1140	1.1124	
	1.8726	1.8569	1.8424	1.8297	1.8193	1.8115	1.8067	1.8051	
0.90	1.2063	1.2125	1.2183	1.2233	1.2275	1.2306	1.2326	1.2332	
	0.3939	0.4006	0.4068	0.4122	0.4167	0.4200	0.4220	0.4227	
	0.0650	0.0613	0.0553	0.0471	0.0371	0.0256	0.0130	0.0000	
	1.1642	1.1492	1.1354	1.1234	1.1136	1.1063	1.1018	1.1003	
	1.8583	1.8426	1.8282	1.8155	1.8052	1.7974	1.7926	1.7910	
0.95	1.2147	1.2209	1.2266	1.2317	1.2358	1.2390	1.2409	1.2416	
	0.3861	0.3929	0.3991	0.4045	0.4091	0.4124	0.4144	0.4151	
	0.0646	0.0610	0.0550	0.0468	0.0369	0.0254	0.0130	0.0000	
	1.1511	1.1362	1.1225	1.1106	1.1009	1.0936	1.0891	1.0876	
	1.8433	1.8277	1.8134	1.8007	1.7904	1.7827	1.7779	1.7763	
1.00	1.2233	1.2295	1.2352	1.2402	1.2444	1.2475	1.2495	1.2501	
	0.3783	0.3851	0.3914	0.3969	0.4014	0.4047	0.4067	0.4074	
	0.0643	0.0606	0.0547	0.0466	0.0366	0.0252	0.0129	0.0000	
	1.1373	1.1226	1.1090	1.0972	1.0875	1.0803	1.0758	1.0743	
	1.8276	1.8121	1.7978	1.7852	1.7748	1.7671	1.7623	1.7607	
F_x	1.1199	1.1233	1.1263	1.1290	1.1312	1.1328	1.1338	1.1342	

$$M_{\infty} = 2, \beta_{\kappa} = 30^{\circ}, \alpha = 5^{\circ}$$

ξ	θ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.00	0.9499	0.9512	0.9548	0.9608	0.9689	0.9788	0.9903	1.0028	1.0160
	0.5484	0.5491	0.5513	0.5547	0.5594	0.5651	0.5717	0.5790	0.5866
	0.0000	0.0289	0.0569	0.0830	0.1064	0.1262	0.1416	0.1520	0.1567
	1.5330	1.5286	1.5156	1.4947	1.4672	1.4345	1.3983	1.3605	1.3229
	2.2371	2.2325	2.2189	2.1970	2.1680	2.1334	2.0949	2.0543	2.0135
0.05	0.9629	0.9643	0.9685	0.9753	0.9846	0.9960	1.0092	1.0238	1.0392
	0.5264	0.5273	0.5299	0.5341	0.5398	0.5468	0.5550	0.5640	0.5735
	0.0000	0.0287	0.0566	0.0825	0.1057	0.1253	0.1406	0.1508	0.1555
	1.5317	1.5273	1.5145	1.4939	1.4667	1.4343	1.3985	1.3610	1.3235
	2.2358	2.2315	2.2188	2.1985	2.1716	2.1394	2.1037	2.0662	2.0286
0.10	0.9752	0.9767	0.9809	0.9877	0.9969	1.0083	1.0215	1.0359	1.0511
	0.5064	0.5073	0.5100	0.5145	0.5206	0.5280	0.5366	0.5461	0.5561
	0.0000	0.0284	0.0559	0.0816	0.1046	0.1240	0.1390	0.1491	0.1538
	1.5282	1.5238	1.5111	1.4909	1.4640	1.4320	1.3966	1.3594	1.3220
	2.2321	2.2278	2.2154	2.1956	2.1693	2.1378	2.1027	2.0657	2.0284
0.15	0.9870	0.9884	0.9926	0.9994	1.0085	1.0198	1.0328	1.0471	1.0621
	0.4880	0.4890	0.4918	0.4965	0.5029	0.5107	0.5197	0.5296	0.5400
	0.0000	0.0281	0.0503	0.0807	0.1003	0.1204	0.1303	0.1402	0.1508
	1.5228	1.5185	1.5009	1.4800	1.4506	1.4210	1.3909	1.3500	1.3109
	2.2265	2.2223	2.2101	2.1908	2.1610	2.1300	2.0984	2.0629	2.0259
0.20	0.9983	0.9997	1.0039	1.0105	1.0196	1.0308	1.0436	1.0577	1.0725
	0.4711	0.4721	0.4751	0.4800	0.4866	0.4947	0.5041	0.5144	0.5252
	0.0000	0.0278	0.0547	0.0797	0.1021	0.1210	0.1356	0.1454	0.1498
	1.5159	1.5117	1.4993	1.4797	1.4536	1.4225	1.3878	1.3513	1.3145
	2.2193	2.2152	2.2033	2.1843	2.1590	2.1285	2.0944	2.0583	2.0216
0.25	1.0091	1.0106	1.0147	1.0212	1.0302	1.0412	1.0539	1.0678	1.0824
	0.4554	0.4554	0.4595	0.4646	0.4715	0.4799	0.4896	0.5002	0.5114
	0.0000	0.0275	0.0541	0.0788	0.1009	0.1195	0.1339	0.1435	0.1478
	1.5079	1.5037	1.4916	1.4723	1.4465	1.4158	1.3816	1.3454	1.3090
	2.2109	2.2068	2.1952	2.1766	2.1516	2.1217	2.0881	2.0523	2.0160
0.30	1.0196	1.0210	1.0251	1.0316	1.0404	1.0513	1.0638	1.0775	1.0919
	0.4408	0.4419	0.4451	0.4503	0.4574	0.4661	0.4761	0.4871	0.4986
	0.0000	0.0272	0.0535	0.0780	0.0998	0.1182	0.1324	0.1418	0.1460
	1.4988	1.4947	1.4828	1.4638	1.4385	1.4082	1.3744	1.3386	1.3025
	2.2014	2.1974	2.1860	2.1677	2.1432	2.1137	2.0806	2.0453	2.0092
0.35	1.0298	1.0312	1.0351	1.0416	1.0503	1.0611	1.0734	1.0869	1.1011
	0.4271	0.4282	0.4316	0.4370	0.4443	0.4532	0.4635	0.4748	0.4866
	0.0000	0.0270	0.0530	0.0772	0.0988	0.1170	0.1310	0.1402	0.1443
	1.4889	1.4849	1.4733	1.4545	1.4296	1.3997	1.3664	1.3311	1.2953
	2.1910	2.1871	2.1760	2.1580	2.1339	2.1049	2.0722	2.0373	2.0016
0.40	1.0397	1.0411	1.0449	1.0513	1.0600	1.0705	1.0827	1.0960	1.1100
	0.4143	0.4154	0.4188	0.4244	0.4319	0.4411	0.4517	0.4632	0.4753
	0.0000	0.0267	0.0525	0.0765	0.0979	0.1158	0.1296	0.1387	0.1427
	1.4783	1.4745	1.4630	1.4445	1.4200	1.3906	1.3577	1.3228	1.2874
	2.1798	2.1761	2.1652	2.1475	2.1238	2.0952	2.0630	2.0284	1.9931
0.45	1.0494	1.0507	1.0545	1.0608	1.0693	1.0797	1.0918	1.1049	1.1187
	0.4021	0.4033	0.4068	0.4125	0.4203	0.4297	0.4405	0.4523	0.4647
	0.0000	0.0265	0.0521	0.0759	0.0970	0.1148	0.1284	0.1374	0.1412
	1.4672	1.4634	1.4521	1.4340	1.4098	1.3809	1.3484	1.3140	1.2790
	2.1681	2.1645	2.1537	2.1363	2.1130	2.0849	2.0531	2.0189	1.9839
0.50	1.0588	1.0601	1.0639	1.0701	1.0785	1.0888	1.1006	1.1136	1.1272
	0.3906	0.3919	0.3955	0.4013	0.4092	0.4189	0.4299	0.4420	0.4546
	0.0000	0.0263	0.0517	0.0753	0.0963	0.1138	0.1273	0.1361	0.1398
	1.4556	1.4518	1.4408	1.4229	1.3992	1.3706	1.3386	1.3046	1.2700
	2.1558	2.1522	2.1417	2.1246	2.1017	2.0739	2.0426	2.0088	1.9741

$$M_{\infty} = 2, \beta_k = 30^\circ, \alpha = 5^\circ$$

ξ	θ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.55	1.0681 0.3797 0.0000 1.4435 2.1430	1.0693 0.3810 0.0261 1.4398 2.1395	1.0731 0.3846 0.0513 1.4289 2.1291	1.0792 0.3906 0.0748 1.4114 2.1123	1.0874 0.3987 0.0955 1.3880 2.0898	1.0976 0.4085 0.1129 1.3599 2.0625	1.1093 0.4198 0.1262 1.3284 2.0315	1.1221 0.4321 0.1349 1.2948 1.9982	1.1356 0.4450 0.1386 1.2606 1.9638
0.60	1.0772 0.3693 0.0000 1.4310 2.1297	1.0784 0.3705 0.0260 1.4274 2.1263	1.0821 0.3743 0.0510 1.4167 2.1161	1.0881 0.3804 0.0747 1.3994 2.0996	1.0963 0.3886 0.0919 1.3765 2.0774	1.1063 0.3987 0.1121 1.3488 2.0505	1.1178 0.4102 0.1253 1.3177 2.0200	1.1305 0.4227 0.1338 1.2846 1.9870	1.1438 0.4358 0.1371 1.2508 1.9530
0.65	1.0861 0.3593 0.0000 1.4181 2.1160	1.0874 0.3606 0.0258 1.4146 2.1126	1.0910 0.3644 0.0507 1.4041 2.1026	1.0969 0.3706 0.0738 1.3871 2.0864	1.1050 0.3790 0.0943 1.3645 2.0646	1.1149 0.3893 0.1113 1.3373 2.0381	1.1263 0.4010 0.1244 1.3067 2.0080	1.1388 0.4137 0.1328 1.2740 1.9754	1.1519 0.4270 0.1363 1.2405 1.9417
0.70	1.0950 0.3496 0.0000 1.4049 2.1019	1.0962 0.3510 0.0257 1.4014 2.0986	1.0998 0.3549 0.0504 1.3911 2.0887	1.1057 0.3612 0.0734 1.3744 2.0728	1.1136 0.3698 0.0937 1.3522 2.0513	1.1234 0.3802 0.1106 1.3254 2.0252	1.1346 0.3921 0.1235 1.2953 1.9955	1.1470 0.4050 0.1319 1.2630 1.9633	1.1600 0.4185 0.1353 1.2300 1.9300
0.75	1.1038 0.3403 0.0000 1.3913 2.0873	1.1050 0.3417 0.0255 1.3878 2.0841	1.1086 0.3456 0.0502 1.3777 2.0744	1.1144 0.3521 0.0730 1.3614 2.0587	1.1222 0.3608 0.0932 1.3395 2.0376	1.1318 0.3714 0.1100 1.3132 2.0119	1.1429 0.3835 0.1228 1.2835 1.9826	1.1551 0.3966 0.1310 1.2516 1.9508	1.1680 0.4103 0.1343 1.2190 1.9178
0.80	1.1126 0.3313 0.0000 1.3773 2.0723	1.1138 0.3327 0.0254 1.3739 2.0691	1.1173 0.3367 0.0499 1.3640 2.0596	1.1230 0.3433 0.0726 1.3480 2.0442	1.1307 0.3521 0.0927 1.3265 2.0235	1.1402 0.3629 0.1094 1.3006 1.9981	1.1512 0.3751 0.1221 1.2713 1.9692	1.1633 0.3884 0.1302 1.2399 1.9378	1.1760 0.4023 0.1334 1.2077 1.9051
0.85	1.1214 0.3225 0.0000 1.3630 2.0569	1.1226 0.3239 0.0253 1.3597 2.0538	1.1260 0.3280 0.0497 1.3499 2.0444	1.1316 0.3347 0.0723 1.3342 2.0293	1.1393 0.3436 0.0923 1.3131 2.0089	1.1486 0.3546 0.1089 1.2876 1.9839	1.1595 0.3670 0.1214 1.2587 1.9554	1.1714 0.3805 0.1294 1.2278 1.9243	1.1841 0.3945 0.1326 1.1959 1.8919
0.90	1.1303 0.3139 0.0000 1.3482 2.0410	1.1314 0.3153 0.0252 1.3450 2.0379	1.1348 0.3195 0.0495 1.3354 2.0287	1.1403 0.3262 0.0720 1.3200 2.0139	1.1478 0.3353 0.0919 1.2992 1.9938	1.1571 0.3464 0.1084 1.2742 1.9692	1.1678 0.3590 0.1208 1.2458 1.9410	1.1796 0.3726 0.1288 1.2152 1.9103	1.1922 0.3868 0.1318 1.1838 1.8782
0.95	1.1391 0.3054 0.0000 1.3330 2.0245	1.1403 0.3069 0.0251 1.3299 2.0215	1.1436 0.3111 0.0494 1.3205 2.0125	1.1491 0.3180 0.0718 1.3053 1.9979	1.1565 0.3272 0.0915 1.2850 1.9781	1.1656 0.3384 0.1079 1.2603 1.9539	1.1763 0.3511 0.1203 1.2323 1.9261	1.1880 0.3649 0.1281 1.2022 1.8957	1.2004 0.3792 0.1311 1.1711 1.8639
1.00	1.1482 0.2971 0.0000 1.3173 2.0075	1.1493 0.2985 0.0251 1.3142 2.0045	1.1526 0.3028 0.0492 1.3050 1.9957	1.1579 0.3098 0.0715 1.2901 1.9813	1.1653 0.3191 0.0912 1.2702 1.9618	1.1743 0.3304 0.1075 1.2459 1.9380	1.1848 0.3433 0.1197 1.2184 1.9105	1.1964 0.3573 0.1275 1.1887 1.8805	1.2087 0.3717 0.1305 1.1579 1.8490
F_x	1.0893	1.0899	1.0919	1.0951	1.0995	1.1049	1.1110	1.1177	1.1248

$$M_{\infty} = 2, \beta_{\kappa} = 30^{\circ}, \alpha = 5^{\circ}$$

ξ	θ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.00	1.0294	1.0424	1.0545	1.0652	1.0740	1.0806	1.0846	1.1130	1.0860
	0.5943	0.6018	0.6088	0.6150	0.6201	0.6239	0.6262	0.6426	0.6270
	0.1554	0.1480	0.1345	0.1153	0.0912	0.0630	0.0323	0.0000	0.0000
	1.2870	1.2541	1.2253	1.2012	1.1823	1.1688	1.1607	1.1580	1.1580
	1.9743	1.9381	1.9062	1.8794	1.8583	1.8431	1.8340	1.8642	1.8309
0.05	1.0549	1.0702	1.0847	1.0976	1.1083	1.1164	1.1214	1.1232	
	0.5832	0.5927	0.6017	0.6097	0.6163	0.6213	0.6245	0.6255	
	0.1543	0.1469	0.1336	0.1146	0.0907	0.0628	0.0322	0.0000	
	1.2876	1.2546	1.2255	1.2012	1.1820	1.1682	1.1599	1.1571	
	1.9925	1.9595	1.9305	1.9063	1.8874	1.8739	1.8659	1.8632	
0.10	1.0666	1.0816	1.0957	1.1082	1.1186	1.1263	1.1311	1.1328	
	0.5663	0.5762	0.5855	0.5937	0.6006	0.6057	0.6089	0.6100	
	0.1525	0.1453	0.1321	0.1134	0.0898	0.0622	0.0319	0.0000	
	1.2862	1.2531	1.2240	1.1994	1.1800	1.1660	1.1576	1.1547	
	1.9925	1.9593	1.9300	1.9053	1.8858	1.8717	1.8633	1.8605	
0.15	1.0773	1.0921	1.1059	1.1181	1.1282	1.1357	1.1404	1.1420	
	0.5506	0.5609	0.5705	0.5791	0.5861	0.5914	0.5947	0.5958	
	0.1505	0.1433	0.1303	0.1118	0.0885	0.0613	0.0314	0.0000	
	1.2832	1.2502	1.2210	1.1963	1.1767	1.1626	1.1540	1.1511	
	1.9901	1.9569	1.9273	1.9023	1.8824	1.8680	1.8593	1.8563	
0.20	1.0874	1.1020	1.1155	1.1275	1.1374	1.1447	1.1493	1.1509	
	0.5361	0.5468	0.5567	0.5655	0.5728	0.5783	0.5817	0.5828	
	0.1484	0.1413	0.1284	0.1102	0.0872	0.0604	0.0309	0.0000	
	1.2790	1.2461	1.2168	1.1920	1.1724	1.1581	1.1495	1.1466	
	1.9860	1.9527	1.9230	1.8978	1.8776	1.8629	1.8541	1.8511	
0.25	1.0971	1.1114	1.1247	1.1365	1.1462	1.1534	1.1579	1.1594	
	0.5227	0.5337	0.5439	0.5529	0.5605	0.5661	0.5696	0.5707	
	0.1465	0.1394	0.1266	0.1086	0.0859	0.0595	0.0304	0.0000	
	1.2737	1.2409	1.2117	1.1869	1.1671	1.1528	1.1441	1.1412	
	1.9805	1.9473	1.9176	1.8921	1.8718	1.8569	1.8479	1.8448	
0.30	1.1064	1.1205	1.1336	1.1452	1.1547	1.1618	1.1662	1.1677	
	0.5102	0.5214	0.5320	0.5412	0.5490	0.5547	0.5583	0.5595	
	0.1446	0.1375	0.1249	0.1071	0.0847	0.0586	0.0300	0.0000	
	1.2675	1.2349	1.2057	1.1809	1.1612	1.1468	1.1381	1.1351	
	1.9740	1.9409	1.9111	1.8855	1.8650	1.8500	1.8409	1.8378	
0.35	1.1154	1.1293	1.1422	1.1536	1.1630	1.1700	1.1743	1.1758	
	0.4985	0.5100	0.5208	0.5303	0.5382	0.5441	0.5477	0.5489	
	0.1428	0.1358	0.1233	0.1056	0.0835	0.0578	0.0296	0.0000	
	1.2605	1.2281	1.1991	1.1743	1.1545	1.1401	1.1314	1.1284	
	1.9665	1.9335	1.9037	1.8781	1.8575	1.8424	1.8333	1.8301	
0.40	1.1241	1.1379	1.1506	1.1618	1.1711	1.1780	1.1823	1.1837	
	0.4875	0.4993	0.5103	0.5200	0.5280	0.5340	0.5377	0.5390	
	0.1412	0.1342	0.1217	0.1043	0.0824	0.0570	0.0292	0.0000	
	1.2530	1.2207	1.1918	1.1672	1.1474	1.1329	1.1242	1.1212	
	1.9583	1.9254	1.8957	1.8700	1.8493	1.8341	1.8249	1.8218	
0.45	1.1327	1.1462	1.1588	1.1699	1.1790	1.1859	1.1901	1.1915	
	0.4771	0.4891	0.5003	0.5102	0.5184	0.5245	0.5283	0.5295	
	0.1397	0.1326	0.1203	0.1030	0.0814	0.0563	0.0288	0.0000	
	1.2448	1.2128	1.1841	1.1595	1.1397	1.1253	1.1166	1.1136	
	1.9494	1.9166	1.8870	1.8613	1.8406	1.8253	1.8161	1.8129	
0.50	1.1410	1.1544	1.1668	1.1778	1.1868	1.1936	1.1977	1.1992	
	0.4672	0.4795	0.4909	0.5009	0.5093	0.5154	0.5193	0.5206	
	0.1382	0.1312	0.1190	0.1018	0.0805	0.0556	0.0285	0.0000	
	1.2362	1.2044	1.1758	1.1513	1.1317	1.1173	1.1085	1.1056	
	1.9399	1.9073	1.8777	1.8521	1.8313	1.8160	1.8067	1.8035	

$$M_{\infty} = 2, \beta_{\kappa} = 30^{\circ}, \alpha = 5^{\circ}$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.55	1.1492	1.1624	1.1747	1.1856	1.1945	1.2012	1.2053	1.2068	
	0.4579	0.4703	0.4819	0.4921	0.5005	0.5068	0.5107	0.5120	
	0.1369	0.1299	0.1177	0.1007	0.0796	0.0550	0.0281	0.0000	
	1.2271	1.1956	1.1672	1.1428	1.1232	1.1088	1.1001	1.0971	
0.60	1.9298	1.8974	1.8679	1.8423	1.8215	1.8062	1.7969	1.7937	
	1.1572	1.1703	1.1825	1.1933	1.2021	1.2088	1.2129	1.2143	
	0.4489	0.4616	0.4733	0.4836	0.4921	0.4985	0.5024	0.5037	
	0.1357	0.1287	0.1166	0.0997	0.0787	0.0544	0.0278	0.0000	
0.65	1.2176	1.1863	1.1582	1.1339	1.1143	1.1000	1.0913	1.0883	
	1.9193	1.8871	1.8577	1.8321	1.8113	1.7960	1.7866	1.7834	
	1.1652	1.1782	1.1902	1.2009	1.2097	1.2163	1.2204	1.2218	
	0.4403	0.4531	0.4650	0.4755	0.4841	0.4905	0.4945	0.4958	
0.70	0.1345	0.1276	0.1155	0.0988	0.0780	0.0539	0.0275	0.0000	
	1.2077	1.1767	1.1487	1.1246	1.1051	1.0908	1.0821	1.0791	
	1.9082	1.8762	1.8469	1.8214	1.8006	1.7852	1.7758	1.7726	
	1.1732	1.1860	1.1979	1.2085	1.2173	1.2239	1.2279	1.2293	
0.75	0.4320	0.4450	0.4570	0.4676	0.4762	0.4827	0.4867	0.4881	
	0.1335	0.1265	0.1145	0.0979	0.0772	0.0534	0.0273	0.0000	
	1.1975	1.1668	1.1389	1.1143	1.0955	1.0812	1.0726	1.0696	
	1.8967	1.8649	1.8357	1.8103	1.7895	1.7741	1.7647	1.7614	
0.80	1.1810	1.1938	1.2056	1.2162	1.2249	1.2314	1.2354	1.2368	
	0.4239	0.4371	0.4492	0.4593	0.4686	0.4752	0.4792	0.4805	
	0.1325	0.1255	0.1136	0.0970	0.0766	0.0529	0.0270	0.0000	
	1.1869	1.1564	1.1288	1.1049	1.0856	1.0713	1.0627	1.0597	
0.85	1.8848	1.8531	1.8241	1.7986	1.7779	1.7624	1.7530	1.7498	
	1.1889	1.2016	1.2134	1.2238	1.2325	1.2390	1.2430	1.2444	
	0.4161	0.4294	0.4416	0.4524	0.4612	0.4677	0.4718	0.4731	
	0.1315	0.1246	0.1127	0.0962	0.0759	0.0524	0.0268	0.0000	
0.90	1.1758	1.1457	1.1182	1.0945	1.0752	1.0610	1.0523	1.0494	
	1.8724	1.8409	1.8119	1.7865	1.7657	1.7503	1.7408	1.7376	
	1.1969	1.2094	1.2211	1.2316	1.2403	1.2468	1.2508	1.2522	
	0.4084	0.4218	0.4342	0.4450	0.4538	0.4604	0.4645	0.4658	
0.95	0.1307	0.1237	0.1118	0.0955	0.0753	0.0520	0.0266	0.0000	
	1.1644	1.1345	1.1073	1.0836	1.0644	1.0502	1.0416	1.0386	
	1.8594	1.8281	1.7993	1.7739	1.7531	1.7376	1.7281	1.7248	
	1.2049	1.2174	1.2290	1.2395	1.2481	1.2546	1.2587	1.2600	
1.00	0.4009	0.4144	0.4268	0.4377	0.4466	0.4532	0.4572	0.4586	
	0.1299	0.1229	0.1111	0.0948	0.0747	0.0516	0.0264	0.0000	
	1.1526	1.1229	1.0958	1.0723	1.0531	1.0390	1.0303	1.0274	
	1.8460	1.8148	1.7860	1.7607	1.7398	1.7243	1.7147	1.7115	
1.05	1.2130	1.2254	1.2371	1.2475	1.2562	1.2627	1.2668	1.2681	
	0.3934	0.4070	0.4195	0.4304	0.4393	0.4459	0.4500	0.4513	
	0.1291	0.1221	0.1103	0.0941	0.0742	0.0512	0.0262	0.0000	
	1.1403	1.1108	1.0839	1.0604	1.0413	1.0271	1.0185	1.0155	
1.10	1.8319	1.8009	1.7721	1.7467	1.7258	1.7102	1.7006	1.6973	
	1.2213	1.2337	1.2454	1.2558	1.2645	1.2711	1.2752	1.2766	
	0.3860	0.3997	0.4122	0.4231	0.4320	0.4386	0.4426	0.4440	
	0.1284	0.1214	0.1096	0.0935	0.0737	0.0509	0.0260	0.0000	
1.15	1.1274	1.0981	1.0713	1.0479	1.0288	1.0146	1.0059	1.0030	
	1.8171	1.7862	1.7575	1.7320	1.7110	1.6953	1.6857	1.6823	
	1.2138	1.2387	1.2449	1.2504	1.2549	1.2582	1.2602	1.2609	
	1.1318	1.1387	1.1449	1.1504	1.1549	1.1582	1.1602	1.1609	

$$M_{\infty} = 3, \beta_k = 10^\circ, \alpha = 2^\circ 30'$$

ξ	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.00	1.8382 0.3241 0.0000 0.5346 1.4874	1.8386 0.3242 0.0219 0.5332 1.4846	1.8397 0.3244 0.0432 0.5290 1.4763	1.8415 0.3247 0.0631 0.5224 1.4631	1.8440 0.3251 0.0810 0.5138 1.4458	1.8470 0.3257 0.0962 0.5036 1.4254	1.8506 0.3263 0.1080 0.4925 1.4033	1.8543 0.3270 0.1161 0.4811 1.3796	1.8583 0.3277 0.1199 0.4701 1.3568
0.05	1.8422 0.3022 0.0000 0.5339 1.4861	1.8426 0.3024 0.0209 0.5325 1.4833	1.8437 0.3027 0.0412 0.5285 1.4754	1.8455 0.3033 0.0602 0.5221 1.4626	1.8479 0.3041 0.0771 0.5136 1.4457	1.8508 0.3051 0.0915 0.5037 1.4258	1.8543 0.3063 0.1027 0.4928 1.4039	1.8580 0.3077 0.1102 0.4816 1.3812	1.8620 0.3091 0.1136 0.4706 1.3587
0.10	1.8459 0.2827 0.0000 0.5322 1.4826	1.8463 0.2828 0.0201 0.5308 1.4800	1.8474 0.2833 0.0395 0.5269 1.4722	1.8491 0.2842 0.0576 0.5206 1.4597	1.8515 0.2853 0.0738 0.5124 1.4433	1.8544 0.2868 0.0875 0.5027 1.4238	1.8577 0.2885 0.0981 0.4920 1.4023	1.8614 0.2904 0.1052 0.4810 1.3800	1.8652 0.2925 0.1083 0.4701 1.3578
0.15	1.8495 0.2650 0.0000 0.5296 1.4776	1.8498 0.2652 0.0193 0.5283 1.4750	1.8509 0.2658 0.0380 0.5245 1.4674	1.8526 0.2669 0.0554 0.5184 1.4553	1.8549 0.2684 0.0709 0.5104 1.4392	1.8577 0.2702 0.0840 0.5009 1.4202	1.8610 0.2724 0.0941 0.4904 1.3991	1.8645 0.2749 0.1008 0.4796 1.3771	1.8682 0.2776 0.1037 0.4689 1.3553
0.20	1.8529 0.2488 0.0000 0.5265 1.4713	1.8532 0.2491 0.0186 0.5252 1.4688	1.8542 0.2499 0.0367 0.5215 1.4614	1.8559 0.2511 0.0534 0.5155 1.4495	1.8582 0.2529 0.0684 0.5077 1.4339	1.8609 0.2552 0.0810 0.4984 1.4152	1.8641 0.2578 0.0907 0.4882 1.3946	1.8676 0.2608 0.0970 0.4776 1.3730	1.8712 0.2640 0.0997 0.4670 1.3515
0.25	1.8561 0.2339 0.0000 0.5229 1.4640	1.8565 0.2342 0.0181 0.5216 1.4616	1.8575 0.2352 0.0355 0.5180 1.4544	1.8591 0.2367 0.0518 0.5122 1.4428	1.8613 0.2387 0.0662 0.5045 1.4275	1.8640 0.2413 0.0784 0.4955 1.4093	1.8671 0.2444 0.0877 0.4855 1.3891	1.8705 0.2478 0.0938 0.4751 1.3679	1.8740 0.2515 0.0963 0.4647 1.3467
0.30	1.8593 0.2202 0.0000 0.5188 1.4560	1.8596 0.2205 0.0176 0.5176 1.4536	1.8606 0.2215 0.0345 0.5141 1.4466	1.8622 0.2232 0.0503 0.5084 1.4353	1.8644 0.2256 0.0643 0.5010 1.4203	1.8670 0.2285 0.0761 0.4921 1.4025	1.8700 0.2319 0.0851 0.4824 1.3827	1.8733 0.2358 0.0910 0.4722 1.3619	1.8768 0.2400 0.0934 0.4620 1.3411
0.35	1.8624 0.2073 0.0000 0.5145 1.4473	1.8627 0.2077 0.0171 0.5133 1.4450	1.8637 0.2088 0.0337 0.5099 1.4381	1.8652 0.2107 0.0490 0.5044 1.4271	1.8674 0.2133 0.0627 0.4971 1.4125	1.8699 0.2165 0.0741 0.4885 1.3950	1.8729 0.2203 0.0828 0.4789 1.3757	1.8761 0.2246 0.0885 0.4689 1.3553	1.8794 0.2292 0.0909 0.4590 1.3348
0.40	1.8654 0.1951 0.0000 0.5099 1.4380	1.8657 0.1956 0.0167 0.5088 1.4358	1.8667 0.1968 0.0329 0.5054 1.4291	1.8682 0.1989 0.0479 0.5000 1.4183	1.8703 0.2017 0.0612 0.4929 1.4040	1.8728 0.2052 0.0724 0.4845 1.3870	1.8757 0.2094 0.0809 0.4752 1.3680	1.8788 0.2140 0.0864 0.4654 1.3481	1.8821 0.2190 0.0886 0.4557 1.3280
0.45	1.8684 0.1837 0.0000 0.5051 1.4283	1.8687 0.1841 0.0164 0.5040 1.4261	1.8696 0.1855 0.0322 0.5007 1.4195	1.8711 0.1877 0.0469 0.4955 1.4090	1.8731 0.1907 0.0600 0.4886 1.3951	1.8756 0.1945 0.0708 0.4803 1.3784	1.8784 0.1990 0.0791 0.4712 1.3599	1.8815 0.2040 0.0845 0.4617 1.3403	1.8847 0.2093 0.0867 0.4521 1.3206
0.50	1.8713 0.1727 0.0000 0.5000 1.4181	1.8716 0.1732 0.0161 0.4990 1.4159	1.8725 0.1746 0.0316 0.4958 1.4095	1.8740 0.1770 0.0460 0.4907 1.3993	1.8760 0.1803 0.0588 0.4839 1.3857	1.8784 0.1844 0.0695 0.4759 1.3694	1.8812 0.1891 0.0776 0.4670 1.3512	1.8842 0.1944 0.0829 0.4577 1.3321	1.8873 0.2001 0.0850 0.4484 1.3128

$$M_{\infty} = 3, \beta_{\kappa} = 10^{\circ}, \alpha = 2^{\circ}30'$$

θ	ϕ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.55	1.8743	1.8746	1.8754	1.8769	1.8788	1.8812	1.8839	1.8868	1.8899
	0.1622	0.1627	0.1643	0.1668	0.1703	0.1746	0.1796	0.1852	0.1912
	0.0000	0.0158	0.0311	0.0453	0.0578	0.0683	0.0763	0.0815	0.0835
	0.4948	0.4937	0.4906	0.4857	0.4791	0.4713	0.4626	0.4535	0.4444
	1.4074	1.4053	1.3991	1.3891	1.3758	1.3599	1.3421	1.3234	1.3044
0.60	1.8772	1.8775	1.8783	1.8798	1.8817	1.8840	1.8866	1.8895	1.8925
	0.1520	0.1526	0.1542	0.1569	0.1605	0.1651	0.1704	0.1763	0.1826
	0.0000	0.0156	0.0307	0.0446	0.0570	0.0673	0.0752	0.0802	0.0822
	0.4893	0.4883	0.4853	0.4805	0.4741	0.4665	0.4580	0.4491	0.4402
	1.3963	1.3942	1.3882	1.3784	1.3654	1.3499	1.3326	1.3142	1.2957
0.65	1.8801	1.8804	1.8813	1.8827	1.8845	1.8868	1.8894	1.8922	1.8952
	0.1421	0.1427	0.1444	0.1472	0.1511	0.1558	0.1614	0.1676	0.1742
	0.0000	0.0154	0.0303	0.0440	0.0562	0.0664	0.0741	0.0791	0.0811
	0.4836	0.4826	0.4797	0.4750	0.4688	0.4614	0.4532	0.4445	0.4358
	1.3847	1.3827	1.3768	1.3672	1.3546	1.3394	1.3225	1.3045	1.2864
0.70	1.8831	1.8834	1.8842	1.8856	1.8874	1.8897	1.8922	1.8950	1.8979
	0.1323	0.1329	0.1347	0.1377	0.1417	0.1467	0.1525	0.1590	0.1659
	0.0000	0.0152	0.0299	0.0435	0.0556	0.0656	0.0733	0.0782	0.0801
	0.4777	0.4767	0.4739	0.4693	0.4633	0.4561	0.4481	0.4396	0.4311
	1.3726	1.3706	1.3648	1.3555	1.3432	1.3284	1.3118	1.2943	1.2765
0.75	1.8862	1.8865	1.8873	1.8886	1.8904	1.8926	1.8951	1.8978	1.9007
	0.1226	0.1233	0.1252	0.1283	0.1325	0.1377	0.1437	0.1504	0.1575
	0.0000	0.0151	0.0296	0.0431	0.0550	0.0650	0.0725	0.0774	0.0793
	0.4715	0.4706	0.4678	0.4634	0.4575	0.4505	0.4427	0.4345	0.4262
	1.3598	1.3579	1.3523	1.3432	1.3312	1.3167	1.3005	1.2834	1.2660
0.80	1.8894	1.8896	1.8904	1.8918	1.8935	1.8957	1.8981	1.9008	1.9036
	0.1129	0.1136	0.1156	0.1188	0.1231	0.1285	0.1348	0.1418	0.1491
	0.0000	0.0150	0.0294	0.0427	0.0546	0.0644	0.0719	0.0767	0.0786
	0.4649	0.4640	0.4614	0.4570	0.4513	0.4445	0.4369	0.4289	0.4209
	1.3462	1.3444	1.3389	1.3301	1.3184	1.3043	1.2885	1.2717	1.2547
0.85	1.8927	1.8930	1.8938	1.8950	1.8968	1.8989	1.9013	1.9039	1.9067
	0.1030	0.1037	0.1058	0.1091	0.1136	0.1192	0.1257	0.1329	0.1405
	0.0000	0.0149	0.0292	0.0424	0.0542	0.0640	0.0714	0.0761	0.0780
	0.4579	0.4571	0.4545	0.4503	0.4447	0.4381	0.4307	0.4230	0.4151
	1.3317	1.3299	1.3246	1.3160	1.3046	1.2908	1.2754	1.2590	1.2424
0.90	1.8963	1.8965	1.8973	1.8986	1.9003	1.9024	1.9048	1.9074	1.9101
	0.0927	0.0935	0.0956	0.0990	0.1037	0.1095	0.1161	0.1235	0.1314
	0.0000	0.0148	0.0290	0.0422	0.0539	0.0636	0.0710	0.0757	0.0776
	0.4504	0.4495	0.4470	0.4429	0.4376	0.4311	0.4239	0.4164	0.4087
	1.3159	1.3142	1.3090	1.3006	1.2895	1.2761	1.2610	1.2450	1.2287
0.95	1.9002	1.9004	1.9012	1.9024	1.9041	1.9062	1.9086	1.9112	1.9139
	0.0818	0.0825	0.0847	0.0882	0.0930	0.0990	0.1058	0.1134	0.1213
	0.0000	0.0147	0.0289	0.0421	0.0537	0.0634	0.0707	0.0755	0.0773
	0.4419	0.4411	0.4386	0.4347	0.4295	0.4232	0.4163	0.4089	0.4014
	1.2983	1.2966	1.2915	1.2833	1.2725	1.2593	1.2446	1.2289	1.2129
1.00	1.9046	1.9049	1.9057	1.9069	1.9086	1.9107	1.9131	1.9157	1.9185
	0.0695	0.0703	0.0725	0.0761	0.0810	0.0870	0.0939	0.1016	0.1096
	0.0000	0.0147	0.0289	0.0420	0.0536	0.0633	0.0706	0.0754	0.0772
	0.4321	0.4313	0.4289	0.4251	0.4200	0.4139	0.4070	0.3998	0.3924
	1.2777	1.2760	1.2711	1.2630	1.2523	1.2394	1.2249	1.2094	1.1935
F_x	0.3702	0.3707	0.3721	0.3745	0.3777	0.3817	0.3865	0.3919	0.3978

$$M_{\infty} = 3, \beta_{\kappa} = 10^{\circ}, \alpha = 2^{\circ}30'$$

ξ	θ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.00	1.8623	1.8663	1.8699	1.8732	1.8758	1.8778	1.8791	1.8795	1.8809
	0.3284	0.3291	0.3297	0.3303	0.3308	0.3311	0.3313	0.3314	0.3317
	0.1190	0.1135	0.1032	0.0885	0.0701	0.0485	0.0248	0.0000	0.0000
	0.4597	0.4506	0.4428	0.4365	0.4318	0.4285	0.4265	0.4259	0.4259
	1.3355	1.3164	1.3001	1.2870	1.2769	1.2700	1.2659	1.2645	1.2674
0.05	1.8660	1.8698	1.8734	1.8765	1.8791	1.8811	1.8823	1.8827	
	0.3106	0.3122	0.3136	0.3150	0.3162	0.3170	0.3176	0.3178	
	0.1127	0.1072	0.0974	0.0834	0.0659	0.0456	0.0233	0.0000	
	0.4603	0.4511	0.4432	0.4367	0.4318	0.4283	0.4263	0.4256	
	1.3376	1.3185	1.3021	1.2886	1.2782	1.2709	1.2666	1.2652	
0.10	1.8690	1.8728	1.8762	1.8792	1.8817	1.8836	1.8847	1.8851	
	0.2948	0.2970	0.2992	0.3012	0.3029	0.3042	0.3051	0.3053	
	0.1072	0.1019	0.0924	0.0791	0.0625	0.0432	0.0221	0.0000	
	0.4599	0.4507	0.4427	0.4362	0.4311	0.4275	0.4254	0.4247	
	1.3368	1.3177	1.3012	1.2875	1.2768	1.2693	1.2648	1.2633	
0.15	1.8720	1.8756	1.8789	1.8818	1.8842	1.8860	1.8871	1.8875	
	0.2805	0.2833	0.2861	0.2887	0.2909	0.2925	0.2936	0.2939	
	0.1026	0.0974	0.0882	0.0755	0.0596	0.0412	0.0210	0.0000	
	0.4588	0.4496	0.4416	0.4350	0.4299	0.4262	0.4241	0.4233	
	1.3345	1.3155	1.2989	1.2851	1.2743	1.2666	1.2620	1.2604	
0.20	1.8748	1.8783	1.8815	1.8843	1.8867	1.8884	1.8894	1.8898	
	0.2674	0.2709	0.2742	0.2772	0.2798	0.2818	0.2830	0.2834	
	0.0986	0.0935	0.0847	0.0724	0.0571	0.0395	0.0201	0.0000	
	0.4571	0.4480	0.4400	0.4334	0.4283	0.4246	0.4224	0.4216	
	1.3309	1.3121	1.2955	1.2817	1.2708	1.2630	1.2584	1.2568	
0.25	1.8775	1.8809	1.8841	1.8868	1.8890	1.8907	1.8917	1.8921	
	0.2555	0.2594	0.2632	0.2666	0.2695	0.2718	0.2732	0.2737	
	0.0952	0.0902	0.0817	0.0698	0.0550	0.0380	0.0194	0.0000	
	0.4549	0.4459	0.4380	0.4314	0.4263	0.4226	0.4204	0.4196	
	1.3264	1.3077	1.2913	1.2775	1.2666	1.2588	1.2541	1.2525	
0.30	1.8802	1.8835	1.8865	1.8892	1.8914	1.8930	1.8940	1.8943	
	0.2443	0.2487	0.2529	0.2567	0.2600	0.2625	0.2640	0.2645	
	0.0922	0.0874	0.0791	0.0675	0.0533	0.0368	0.0188	0.0000	
	0.4523	0.4435	0.4357	0.4291	0.4240	0.4203	0.4181	0.4174	
	1.3211	1.3027	1.2864	1.2727	1.2618	1.2540	1.2493	1.2477	
0.35	1.8828	1.8860	1.8890	1.8916	1.8937	1.8953	1.8962	1.8966	
	0.2339	0.2387	0.2433	0.2475	0.2510	0.2537	0.2554	0.2559	
	0.0897	0.0850	0.0768	0.0656	0.0517	0.0357	0.0182	0.0000	
	0.4495	0.4407	0.4330	0.4266	0.4215	0.4178	0.4156	0.4149	
	1.3151	1.2969	1.2808	1.2672	1.2564	1.2487	1.2440	1.2424	
0.40	1.8854	1.8885	1.8914	1.8939	1.8960	1.8975	1.8985	1.8988	
	0.2241	0.2293	0.2342	0.2387	0.2425	0.2454	0.2472	0.2478	
	0.0874	0.0828	0.0749	0.0640	0.0504	0.0348	0.0178	0.0000	
	0.4463	0.4377	0.4302	0.4238	0.4188	0.4151	0.4129	0.4122	
	1.3086	1.2907	1.2748	1.2613	1.2506	1.2429	1.2382	1.2366	
0.45	1.8879	1.8910	1.8938	1.8963	1.8983	1.8998	1.9007	1.9010	
	0.2148	0.2204	0.2256	0.2304	0.2344	0.2374	0.2393	0.2400	
	0.0855	0.0810	0.0732	0.0625	0.0493	0.0340	0.0174	0.0000	
	0.4430	0.4345	0.4271	0.4208	0.4158	0.4122	0.4101	0.4093	
	1.3016	1.2839	1.2682	1.2549	1.2444	1.2367	1.2321	1.2305	
0.50	1.8904	1.8933	1.8962	1.8986	1.9006	1.9020	1.9029	1.9032	
	0.2060	0.2118	0.2174	0.2224	0.2266	0.2298	0.2318	0.2325	
	0.0838	0.0794	0.0717	0.0613	0.0483	0.0333	0.0170	0.0000	
	0.4394	0.4311	0.4238	0.4176	0.4127	0.4092	0.4070	0.4063	
	1.2941	1.2767	1.2612	1.2481	1.2377	1.2301	1.2255	1.2240	

$$M_{\infty} = 3, \beta_k = 10^\circ, \alpha = 2^\circ 30'$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.55	1.8930	1.8959	1.8986	1.9010	1.9029	1.9043	1.9052	1.9055	
	0.1974	0.2036	0.2094	0.2147	0.2191	0.2224	0.2245	0.2253	
	0.0823	0.0780	0.0705	0.0602	0.0474	0.0327	0.0167	0.0000	
	0.4356	0.4275	0.4203	0.4142	0.4094	0.4059	0.4038	0.4031	
	1.2861	1.2690	1.2538	1.2409	1.2306	1.2231	1.2186	1.2170	
0.60	1.8955	1.8984	1.9010	1.9033	1.9052	1.9066	1.9075	1.9078	
	0.1891	0.1955	0.2016	0.2071	0.2118	0.2152	0.2174	0.2182	
	0.0811	0.0767	0.0694	0.0592	0.0467	0.0322	0.0164	0.0000	
	0.4316	0.4237	0.4166	0.4106	0.4059	0.4025	0.4004	0.3997	
	1.2777	1.2609	1.2459	1.2332	1.2231	1.2157	1.2112	1.2097	
0.65	1.8981	1.9009	1.9035	1.9058	1.9076	1.9090	1.9098	1.9101	
	0.1810	0.1877	0.1940	0.1997	0.2045	0.2082	0.2104	0.2112	
	0.0799	0.0757	0.0684	0.0584	0.0460	0.0318	0.0162	0.0000	
	0.4274	0.4196	0.4127	0.4068	0.4022	0.3988	0.3968	0.3961	
	1.2687	1.2523	1.2376	1.2251	1.2151	1.2078	1.2034	1.2019	
0.70	1.9007	1.9035	1.9061	1.9083	1.9101	1.9115	1.9123	1.9126	
	0.1729	0.1799	0.1865	0.1924	0.1974	0.2011	0.2034	0.2042	
	0.0790	0.0748	0.0676	0.0577	0.0455	0.0314	0.0160	0.0000	
	0.4229	0.4153	0.4085	0.4028	0.3982	0.3949	0.3929	0.3923	
	1.2592	1.2431	1.2287	1.2164	1.2065	1.1994	1.1951	1.1936	
0.75	1.9035	1.9062	1.9087	1.9109	1.9127	1.9140	1.9148	1.9151	
	0.1649	0.1721	0.1789	0.1850	0.1901	0.1940	0.1964	0.1972	
	0.0782	0.0740	0.0669	0.0571	0.0450	0.0311	0.0159	0.0000	
	0.4182	0.4107	0.4041	0.3985	0.3940	0.3908	0.3888	0.3881	
	1.2491	1.2333	1.2191	1.2071	1.1974	1.1904	1.1861	1.1847	
0.80	1.9064	1.9090	1.9115	1.9137	1.9154	1.9167	1.9175	1.9178	
	0.1567	0.1642	0.1712	0.1775	0.1828	0.1857	0.1892	0.1901	
	0.0775	0.0733	0.0663	0.0566	0.0446	0.0308	0.0157	0.0000	
	0.4130	0.4058	0.3993	0.3938	0.3895	0.3863	0.3843	0.3837	
	1.2382	1.2227	1.2088	1.1970	1.1875	1.1806	1.1764	1.1750	
0.85	1.9094	1.9121	1.9145	1.9166	1.9184	1.9196	1.9204	1.9207	
	0.1483	0.1559	0.1632	0.1696	0.1751	0.1791	0.1817	0.1825	
	0.0769	0.0728	0.0658	0.0562	0.0443	0.0306	0.0156	0.0000	
	0.4075	0.4004	0.3941	0.3887	0.3844	0.3813	0.3794	0.3788	
	1.2262	1.2110	1.1974	1.1858	1.1765	1.1697	1.1656	1.1642	
0.90	1.9128	1.9154	1.9178	1.9199	1.9216	1.9229	1.9237	1.9240	
	0.1393	0.1472	0.1546	0.1612	0.1668	0.1709	0.1735	0.1744	
	0.0765	0.0724	0.0655	0.0559	0.0441	0.0304	0.0155	0.0000	
	0.4013	0.3944	0.3882	0.3829	0.3787	0.3757	0.3739	0.3732	
	1.2128	1.1980	1.1846	1.1732	1.1641	1.1574	1.1534	1.1520	
0.95	1.9166	1.9192	1.9216	1.9237	1.9255	1.9267	1.9275	1.9278	
	0.1295	0.1375	0.1450	0.1518	0.1574	0.1616	0.1643	0.1652	
	0.0762	0.0722	0.0653	0.0558	0.0440	0.0304	0.0155	0.0000	
	0.3941	0.3873	0.3813	0.3761	0.3720	0.3690	0.3672	0.3666	
	1.1973	1.1827	1.1695	1.1583	1.1492	1.1427	1.1387	1.1373	
1.00	1.9213	1.9239	1.9264	1.9286	1.9304	1.9317	1.9326	1.9328	
	0.1178	0.1258	0.1333	0.1400	0.1456	0.1498	0.1524	0.1533	
	0.0762	0.0721	0.0653	0.0558	0.0440	0.0304	0.0155	0.0000	
	0.3852	0.3785	0.3724	0.3673	0.3632	0.3602	0.3583	0.3577	
	1.1779	1.1633	1.1501	1.1388	1.1296	1.1230	1.1189	1.1176	
F_x	0.4039	0.4101	0.4161	0.4215	0.4261	0.4296	0.4318	0.4326	

$$M_{\infty} = 3, \beta_{\kappa} = 10^{\circ}, \alpha = 5^{\circ}$$

ξ	θ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.00	1.8128	1.8135	1.8156	1.8190	1.8236	1.8294	1.8361	1.8436	1.8515
	0.3196	0.3198	0.3201	0.3207	0.3216	0.3226	0.3238	0.3251	0.3265
	0.0000	0.0409	0.0808	0.1188	0.1536	0.1843	0.2096	0.2282	0.2389
	0.6056	0.6021	0.5919	0.5758	0.5550	0.5309	0.5052	0.4797	0.4560
	1.6231	1.6164	1.5969	1.5657	1.5250	1.4774	1.4261	1.3743	1.3254
0.05	1.8170	1.8177	1.8198	1.8232	1.8278	1.8335	1.8401	1.8475	1.8554
	0.2961	0.2963	0.2969	0.2980	0.2994	0.3012	0.3034	0.3059	0.3087
	0.0000	0.0393	0.0776	0.1138	0.1470	0.1760	0.1998	0.2170	0.2266
	0.6048	0.6014	0.5916	0.5761	0.5559	0.5326	0.5077	0.4829	0.4596
	1.6216	1.6152	1.5965	1.5666	1.5275	1.4818	1.4323	1.3823	1.3346
0.10	1.8210	1.8217	1.8238	1.8271	1.8316	1.8372	1.8437	1.8510	1.8586
	0.2749	0.2752	0.2761	0.2775	0.2795	0.2821	0.2852	0.2888	0.2929
	0.0000	0.0378	0.0747	0.1095	0.1413	0.1689	0.1913	0.2073	0.2160
	0.6028	0.5995	0.5901	0.5750	0.5555	0.5329	0.5088	0.4846	0.4617
	1.6178	1.6116	1.5935	1.5646	1.5269	1.4827	1.4347	1.3860	1.3394
0.15	1.8249	1.8255	1.8275	1.8308	1.8352	1.8407	1.8471	1.8541	1.8616
	0.2556	0.2560	0.2571	0.2589	0.2615	0.2648	0.2688	0.2735	0.2787
	0.0000	0.0366	0.0721	0.1057	0.1362	0.1626	0.1840	0.1990	0.2069
	0.5998	0.5967	0.5875	0.5730	0.5541	0.5322	0.5087	0.4850	0.4627
	1.6121	1.6061	1.5886	1.5607	1.5242	1.4813	1.4347	1.3872	1.3416
0.20	1.8285	1.8291	1.8311	1.8343	1.8387	1.8441	1.8503	1.8572	1.8644
	0.2379	0.2384	0.2397	0.2420	0.2451	0.2491	0.2539	0.2595	0.2658
	0.0000	0.0354	0.0699	0.1023	0.1318	0.1572	0.1776	0.1917	0.1991
	0.5961	0.5931	0.5842	0.5701	0.5518	0.5305	0.5077	0.4846	0.4627
	1.6050	1.5992	1.5823	1.5552	1.5198	1.4781	1.4328	1.3865	1.3418
0.25	1.8320	1.8327	1.8346	1.8377	1.8420	1.8473	1.8534	1.8601	1.8671
	0.2216	0.2221	0.2237	0.2263	0.2299	0.2346	0.2402	0.2466	0.2539
	0.0000	0.0345	0.0680	0.0994	0.1280	0.1524	0.1720	0.1855	0.1923
	0.5918	0.5889	0.5803	0.5666	0.5489	0.5282	0.5060	0.4835	0.4620
	1.5967	1.5911	1.5747	1.5485	1.5141	1.4736	1.4295	1.3842	1.3404
0.30	1.8354	1.8361	1.8379	1.8410	1.8452	1.8504	1.8563	1.8629	1.8697
	0.2064	0.2070	0.2088	0.2117	0.2159	0.2211	0.2275	0.2347	0.2429
	0.0000	0.0336	0.0662	0.0969	0.1246	0.1483	0.1671	0.1800	0.1865
	0.5871	0.5842	0.5759	0.5626	0.5454	0.5253	0.5037	0.4817	0.4607
	1.5876	1.5821	1.5662	1.5407	1.5073	1.4679	1.4250	1.3808	1.3378
0.35	1.8387	1.8394	1.8412	1.8442	1.8483	1.8534	1.8592	1.8656	1.8723
	0.1921	0.1928	0.1948	0.1981	0.2027	0.2085	0.2156	0.2236	0.2327
	0.0000	0.0329	0.0647	0.0946	0.1216	0.1446	0.1629	0.1753	0.1813
	0.5820	0.5792	0.5711	0.5583	0.5415	0.5220	0.5009	0.4795	0.4589
	1.5777	1.5724	1.5569	1.5322	1.4997	1.4614	1.4195	1.3763	1.3342
0.40	1.8420	1.8426	1.8444	1.8474	1.8514	1.8563	1.8620	1.8683	1.8748
	0.1787	0.1794	0.1816	0.1852	0.1903	0.1967	0.2044	0.2132	0.2230
	0.0000	0.0322	0.0634	0.0926	0.1190	0.1414	0.1591	0.1711	0.1779
	0.5765	0.5738	0.5660	0.5535	0.5373	0.5183	0.4978	0.4769	0.4567
	1.5671	1.5620	1.5470	1.5229	1.4913	1.4540	1.4132	1.3709	1.3297
0.45	1.8451	1.8458	1.8475	1.8504	1.8544	1.8592	1.8648	1.8709	1.8772
	0.1659	0.1667	0.1691	0.1731	0.1786	0.1855	0.1939	0.2033	0.2138
	0.0000	0.0316	0.0622	0.0909	0.1166	0.1385	0.1558	0.1674	0.1730
	0.5708	0.5682	0.5606	0.5485	0.5327	0.5143	0.4943	0.4739	0.4541
	1.5560	1.5510	1.5364	1.5130	1.4823	1.4459	1.4061	1.3648	1.3244
0.50	1.8483	1.8489	1.8506	1.8535	1.8573	1.8621	1.8675	1.8735	1.8797
	0.1537	0.1546	0.1572	0.1615	0.1674	0.1748	0.1838	0.1938	0.2051
	0.0000	0.0311	0.0612	0.0893	0.1146	0.1360	0.1529	0.1642	0.1695
	0.5648	0.5623	0.5549	0.5432	0.5279	0.5099	0.4905	0.4706	0.4513
	1.5444	1.5395	1.5253	1.5026	1.4727	1.4373	1.3984	1.3580	1.3185

$$M_{\infty} = 3, \beta_{\kappa} = 10^{\circ}, \alpha = 5^{\circ}$$

ξ	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.55	1.8514 0.1420 0.0000 0.5586 1.5322	1.8520 0.1429 0.0306 0.5562 1.5275	1.8537 0.1457 0.0603 0.5490 1.5137	1.8565 0.1503 0.0879 0.5376 1.4916	1.8603 0.1566 0.1128 0.5228 1.4625	1.8649 0.1646 0.1338 0.5053 1.4280	1.8702 0.1741 0.1503 0.4864 1.3901	1.8761 0.1848 0.1614 0.4670 1.3506	1.8822 0.1966 0.1665 0.4481 1.3119
0.60	1.8545 0.1307 0.0000 0.5522 1.5196	1.8551 0.1317 0.0302 0.5498 1.5150	1.8568 0.1347 0.0595 0.5429 1.5016	1.8595 0.1395 0.0867 0.5318 1.4801	1.8632 0.1463 0.1112 0.5174 1.4518	1.8677 0.1547 0.1319 0.5004 1.4182	1.8730 0.1647 0.1481 0.4820 1.3812	1.8787 0.1760 0.1589 0.4631 1.3427	1.8846 0.1884 0.1639 0.4447 1.3047
0.65	1.8576 0.1197 0.0000 0.5455 1.5004	1.8582 0.1207 0.0299 0.5432 1.5020	1.8598 0.1239 0.0588 0.5365 1.4890	1.8625 0.1290 0.0857 0.5258 1.4681	1.8661 0.1362 0.1098 0.5118 1.4405	1.8706 0.1450 0.1302 0.4953 1.4078	1.8757 0.1556 0.1461 0.4774 1.3718	1.8813 0.1674 0.1567 0.4589 1.3341	1.8872 0.1804 0.1616 0.4409 1.2969
0.70	1.8608 0.1089 0.0000 0.5386 1.4927	1.8613 0.1100 0.0296 0.5364 1.4884	1.8629 0.1133 0.0581 0.5299 1.4758	1.8656 0.1188 0.0848 0.5195 1.4555	1.8692 0.1262 0.1086 0.5059 1.4286	1.8735 0.1356 0.1287 0.4899 1.3968	1.8785 0.1466 0.1444 0.4725 1.3617	1.8840 0.1590 0.1548 0.4545 1.3248	1.8897 0.1726 0.1596 0.4369 1.2885
0.75	1.8640 0.0982 0.0000 0.5314 1.4784	1.8645 0.0994 0.0293 0.5292 1.4742	1.8661 0.1029 0.0576 0.5229 1.4619	1.8687 0.1086 0.0840 0.5128 1.4422	1.8721 0.1164 0.1076 0.4997 1.4162	1.8764 0.1262 0.1275 0.4842 1.3851	1.8813 0.1377 0.1429 0.4672 1.3509	1.8868 0.1506 0.1532 0.4497 1.3149	1.8924 0.1647 0.1579 0.4326 1.2794
0.80	1.8673 0.0876 0.0000 0.5238 1.4633	1.8678 0.0888 0.0291 0.5217 1.4593	1.8693 0.0925 0.0572 0.5156 1.4474	1.8719 0.0984 0.0834 0.5059 1.4282	1.8753 0.1066 0.1067 0.4931 1.4029	1.8795 0.1168 0.1264 0.4781 1.3727	1.8843 0.1288 0.1417 0.4616 1.3393	1.8896 0.1422 0.1518 0.4446 1.3042	1.8951 0.1568 0.1564 0.4279 1.2694
0.85	1.8707 0.0769 0.0000 0.5158 1.4474	1.8712 0.0781 0.0289 0.5138 1.4434	1.8727 0.0820 0.0568 0.5079 1.4319	1.8752 0.0882 0.0828 0.4985 1.4133	1.8785 0.0967 0.1060 0.4862 1.3887	1.8826 0.1073 0.1255 0.4716 1.3593	1.8874 0.1198 0.1407 0.4556 1.3268	1.8926 0.1336 0.1507 0.4390 1.2925	1.8980 0.1486 0.1552 0.4227 1.2585
0.90	1.8743 0.0659 0.0000 0.5073 1.4302	1.8748 0.0672 0.0288 0.5053 1.4264	1.8762 0.0712 0.0566 0.4997 1.4152	1.8787 0.0777 0.0824 0.4905 1.3972	1.8820 0.0865 0.1055 0.4786 1.3733	1.8860 0.0975 0.1248 0.4645 1.3447	1.8907 0.1104 0.1398 0.4490 1.3131	1.8958 0.1246 0.1498 0.4329 1.2796	1.9012 0.1401 0.1543 0.4170 1.2463
0.95	1.8781 0.0544 0.0000 0.4980 1.4115	1.8786 0.0558 0.0287 0.4961 1.4078	1.8800 0.0599 0.0564 0.4907 1.3970	1.8824 0.0666 0.0821 0.4819 1.3795	1.8857 0.0758 0.1051 0.4704 1.3563	1.8897 0.0872 0.1243 0.4567 1.3285	1.8942 0.1004 0.1392 0.4416 1.2977	1.8994 0.1150 0.1491 0.4259 1.2649	1.9047 0.1309 0.1536 0.4104 1.2323
1.00	1.8823 0.0421 0.0000 0.4877 1.3906	1.8828 0.0435 0.0286 0.4859 1.3870	1.8843 0.0478 0.0563 0.4806 1.3765	1.8866 0.0547 0.0820 0.4721 1.3595	1.8898 0.0642 0.1048 0.4610 1.3370	1.8938 0.0758 0.1240 0.4477 1.3099	1.8983 0.0894 0.1389 0.4331 1.2797	1.9034 0.1043 0.1488 0.4177 1.2475	1.9088 0.1203 0.1532 0.4025 1.2152
F_x	0.3477	0.3484	0.3508	0.3546	0.3601	0.3663	0.3755	0.3853	0.3965

$$M_{\infty} = 3, \beta_{\kappa} = 10^{\circ}, \alpha = 5^{\circ}$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.00	1.8596	1.8676	1.8751	1.8817	1.8873	1.8914	1.8940	1.8966	1.8949
	0.3279	0.3293	0.3306	0.3318	0.3328	0.3335	0.3340	0.3344	0.3341
	0.2403	0.2318	0.2128	0.1838	0.1461	0.1016	0.0519	0.0000	0.0000
	0.4353	0.4185	0.4058	0.3972	0.3917	0.3887	0.3872	0.3869	0.3869
0.05	1.2821	1.2465	1.2195	1.2009	1.1891	1.1826	1.1794	1.1820	1.1786
	1.8634	1.8713	1.8787	1.8852	1.8906	1.8945	1.8969	1.8977	
	0.3118	0.3150	0.3183	0.3214	0.3243	0.3264	0.3279	0.3284	
	0.2271	0.2186	0.1999	0.1723	0.1366	0.0945	0.0483	0.0000	
0.10	0.4391	0.4221	0.4090	0.3996	0.3932	0.3894	0.3873	0.3868	
	1.2921	1.2566	1.2288	1.2089	1.1955	1.1874	1.1830	1.1818	
	1.8664	1.8740	1.8810	1.8872	1.8922	1.8960	1.8982	1.8989	
	0.2974	0.3021	0.3070	0.3116	0.3159	0.3191	0.3213	0.3220	
0.15	0.2160	0.2073	0.1891	0.1627	0.1286	0.0888	0.0454	0.0000	
	0.4414	0.4244	0.4109	0.4010	0.3940	0.3896	0.3871	0.3864	
	1.2974	1.2618	1.2333	1.2122	1.1973	1.1879	1.1825	1.1809	
	1.8691	1.8764	1.8832	1.8891	1.8939	1.8975	1.8996	1.9003	
0.20	0.2844	0.2905	0.2967	0.3026	0.3080	0.3119	0.3147	0.3156	
	0.2065	0.1978	0.1801	0.1547	0.1221	0.0842	0.0430	0.0000	
	0.4426	0.4256	0.4119	0.4016	0.3942	0.3893	0.3865	0.3857	
	1.3000	1.2645	1.2356	1.2136	1.1977	1.1873	1.1813	1.1795	
0.25	1.8717	1.8788	1.8853	1.8910	1.8956	1.8990	1.9011	1.9018	
	0.2726	0.2799	0.2872	0.2942	0.3005	0.3050	0.3082	0.3092	
	0.1984	0.1897	0.1724	0.1481	0.1167	0.0804	0.0411	0.0000	
	0.4428	0.4259	0.4121	0.4016	0.3938	0.3887	0.3857	0.3848	
0.30	1.3008	1.2654	1.2362	1.2136	1.1970	1.1859	1.1794	1.1775	
	1.8742	1.8810	1.8874	1.8928	1.8973	1.9006	1.9025	1.9033	
	0.2618	0.2701	0.2784	0.2863	0.2933	0.2983	0.3013	0.3030	
	0.1914	0.1828	0.1660	0.1424	0.1121	0.0773	0.0395	0.0000	
0.35	0.4424	0.4256	0.4118	0.4011	0.3931	0.3877	0.3846	0.3836	
	1.3000	1.2648	1.2355	1.2126	1.1955	1.1838	1.1770	1.1749	
	1.8766	1.8833	1.8894	1.8947	1.8990	1.9023	1.9042	1.9048	
	0.2517	0.2609	0.2701	0.2788	0.2865	0.2919	0.2957	0.2970	
0.40	0.1853	0.1769	0.1605	0.1376	0.1083	0.0746	0.0381	0.0000	
	0.4414	0.4248	0.4109	0.4002	0.3921	0.3865	0.3833	0.3823	
	1.2980	1.2631	1.2337	1.2107	1.1932	1.1812	1.1741	1.1719	
	1.8790	1.8855	1.8914	1.8966	1.9008	1.9040	1.9059	1.9065	
0.45	0.2423	0.2524	0.2623	0.2717	0.2800	0.2856	0.2897	0.2911	
	0.1801	0.1718	0.1558	0.1335	0.1050	0.0724	0.0370	0.0000	
	0.4399	0.4235	0.4097	0.3989	0.3907	0.3850	0.3817	0.3807	
	1.2949	1.2604	1.2312	1.2080	1.1903	1.1779	1.1707	1.1685	
0.50	1.8814	1.8876	1.8935	1.8984	1.9025	1.9057	1.9075	1.9081	
	0.2334	0.2442	0.2549	0.2649	0.2737	0.2796	0.2839	0.2854	
	0.1756	0.1673	0.1517	0.1300	0.1022	0.0705	0.0360	0.0000	
	0.4381	0.4218	0.4081	0.3974	0.3891	0.3833	0.3800	0.3789	
0.55	1.2910	1.2569	1.2278	1.2046	1.1869	1.1742	1.1669	1.1646	
	1.8837	1.8898	1.8955	1.9003	1.9043	1.9075	1.9093	1.9098	
	0.2249	0.2365	0.2478	0.2583	0.2676	0.2737	0.2783	0.2798	
	0.1716	0.1635	0.1482	0.1270	0.0998	0.0688	0.0352	0.0000	
0.60	0.4359	0.4199	0.4063	0.3955	0.3873	0.3814	0.3780	0.3770	
	1.2864	1.2527	1.2238	1.2007	1.1829	1.1700	1.1626	1.1603	
	1.8860	1.8920	1.8975	1.9023	1.9062	1.9093	1.9110	1.9116	
	0.2168	0.2291	0.2409	0.2520	0.2616	0.2680	0.2727	0.2743	
0.65	0.1681	0.1601	0.1451	0.1244	0.0977	0.0674	0.0345	0.0000	
	0.4333	0.4176	0.4042	0.3935	0.3853	0.3793	0.3759	0.3749	
	1.2811	1.2479	1.2193	1.1963	1.1785	1.1654	1.1580	1.1557	

$$M_{\infty} = 3, \beta_{\kappa} = 10^{\circ}, \alpha = 5^{\circ}$$

φ	θ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.55	1.8883 0.2090 0.1651 0.4305 1.2752	1.8942 0.2219 0.1572 0.4150 1.2425	1.8996 0.2343 0.1424 0.4018 1.2141	1.9042 0.2458 0.1221 0.3912 1.1913	1.9080 0.2558 0.0959 0.3830 1.1736	1.9111 0.2623 0.0662 0.3770 1.1603	1.9128 0.2672 0.0338 0.3736 1.1529	1.9134 0.2689 0.0000 0.3726 1.1506	
0.60	1.8907 0.2014 0.1624 0.4274 1.2686	1.8964 0.2148 0.1546 0.4122 1.2364	1.9017 0.2277 0.1401 0.3991 1.2084	1.9062 0.2398 0.1201 0.3887 1.1859	1.9100 0.2501 0.0944 0.3806 1.1682	1.9131 0.2567 0.0652 0.3745 1.1548	1.9147 0.2618 0.0333 0.3711 1.1474	1.9153 0.2635 0.0000 0.3701 1.1451	
0.65	1.8931 0.1940 0.1601 0.4240 1.2615	1.8987 0.2079 0.1524 0.4091 1.2298	1.9039 0.2213 0.1381 0.3962 1.2022	1.9083 0.2338 0.1184 0.3859 1.1799	1.9120 0.2444 0.0930 0.3779 1.1623	1.9151 0.2511 0.0643 0.3717 1.1488	1.9167 0.2564 0.0329 0.3684 1.1415	1.9172 0.2581 0.0000 0.3674 1.1392	
0.70	1.8955 0.1866 0.1581 0.4204 1.2537	1.9010 0.2011 0.1505 0.4058 1.2226	1.9061 0.2149 0.1364 0.3931 1.1953	1.9105 0.2278 0.1169 0.3829 1.1733	1.9141 0.2387 0.0918 0.3750 1.1559	1.9172 0.2455 0.0635 0.3688 1.1422	1.9188 0.2509 0.0325 0.3655 1.1349	1.9193 0.2527 0.0000 0.3645 1.1327	
0.75	1.8981 0.1793 0.1564 0.4164 1.2453	1.9034 0.1942 0.1489 0.4021 1.2147	1.9085 0.2084 0.1349 0.3896 1.1878	1.9127 0.2217 0.1157 0.3797 1.1661	1.9163 0.2328 0.0908 0.3718 1.1489	1.9195 0.2397 0.0628 0.3655 1.1349	1.9210 0.2452 0.0322 0.3623 1.1278	1.9215 0.2471 0.0000 0.3613 1.1256	
0.80	1.9007 0.1718 0.1549 0.4121 1.2360	1.9060 0.1872 0.1475 0.3980 1.2060	1.9110 0.2018 0.1337 0.3858 1.1794	1.9151 0.2154 0.1147 0.3760 1.1581	1.9186 0.2268 0.0900 0.3683 1.1411	1.9219 0.2336 0.0623 0.3618 1.1267	1.9234 0.2393 0.0320 0.3587 1.1198	1.9239 0.2413 0.0000 0.3577 1.1176	
0.85	1.9036 0.1641 0.1537 0.4073 1.2257	1.9088 0.1799 0.1463 0.3935 1.1962	1.9137 0.1948 0.1327 0.3815 1.1701	1.9177 0.2088 0.1138 0.3719 1.1491	1.9212 0.2205 0.0893 0.3643 1.1323	1.9247 0.2271 0.0619 0.3576 1.1174	1.9261 0.2329 0.0318 0.3546 1.1106	1.9266 0.2350 0.0000 0.3536 1.1085	
0.90	1.9066 0.1559 0.1528 0.4019 1.2141	1.9118 0.1721 0.1454 0.3884 1.1851	1.9167 0.1873 0.1320 0.3766 1.1593	1.9207 0.2017 0.1132 0.3672 1.1387	1.9242 0.2136 0.0888 0.3597 1.1221	1.9278 0.2197 0.0616 0.3526 1.1063	1.9293 0.2258 0.0317 0.3497 1.0997	1.9297 0.2280 0.0000 0.3488 1.0978	
0.95	1.9101 0.1470 0.1521 0.3956 1.2005	1.9153 0.1634 0.1448 0.3824 1.1719	1.9202 0.1789 0.1315 0.3707 1.1463	1.9242 0.1936 0.1128 0.3616 1.1261	1.9277 0.2055 0.0884 0.3541 1.1096	1.9319 0.2107 0.0614 0.3462 1.0919	1.9332 0.2170 0.0317 0.3434 1.0855	1.9336 0.2193 0.0000 0.3427 1.0839	
1.00	1.9144 0.1365 0.1518 0.3878 1.1836	1.9196 0.1530 0.1446 0.3747 1.1550	1.9247 0.1683 0.1315 0.3629 1.1290	1.9288 0.1831 0.1129 0.3539 1.1089	1.9324 0.1949 0.0882 0.3463 1.0921	1.9387 0.1959 0.0617 0.3352 1.0669	1.9400 0.2025 0.0320 0.3325 1.0609	1.9402 0.2052 0.0000 0.3321 1.0600	
F_x	0.4085	0.4214	0.4341	0.4467	0.4572	0.4703	0.4756	0.4778	

$$M_{\infty} = 3, \beta_{\kappa} = 15^{\circ}, \alpha = 5^{\circ}$$

ξ	θ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.00	1.7049 0.4568 0.0000 0.8213 1.9929	1.7057 0.4570 0.0347 0.8170 1.9854	1.7083 0.4577 0.0684 0.8043 1.9633	1.7125 0.4589 0.1003 0.7841 1.9280	1.7182 0.4604 0.1295 0.7577 1.8815	1.7252 0.4623 0.1549 0.7269 1.8265	1.7334 0.4645 0.1756 0.6935 1.7660	1.7425 0.4669 0.1907 0.6593 1.7035	1.7522 0.4695 0.1992 0.6263 1.6422
0.05	1.7098 0.4386 0.0000 0.8207 1.9919	1.7107 0.4389 0.0341 0.8164 1.9847	1.7135 0.4398 0.0674 0.8039 1.9636	1.7180 0.4412 0.0987 0.7841 1.9298	1.7241 0.4431 0.1273 0.7581 1.8853	1.7316 0.4455 0.1521 0.7277 1.8326	1.7404 0.4483 0.1722 0.6947 1.7747	1.7501 0.4515 0.1867 0.6609 1.7146	1.7605 0.4548 0.1947 0.6281 1.6555
0.10	1.7146 0.4216 0.0000 0.8190 1.9889	1.7155 0.4219 0.0336 0.8148 1.9819	1.7183 0.4229 0.0662 0.8025 1.9613	1.7228 0.4246 0.0970 0.7830 1.9282	1.7289 0.4268 0.1250 0.7574 1.8847	1.7364 0.4296 0.1492 0.7274 1.8330	1.7452 0.4328 0.1688 0.6948 1.7760	1.7548 0.4365 0.1828 0.6613 1.7168	1.7651 0.4404 0.1903 0.6288 1.6583
0.15	1.7192 0.4056 0.0000 0.8163 1.9843	1.7202 0.4060 0.0330 0.8122 1.9774	1.7229 0.4071 0.0651 0.8001 1.9573	1.7274 0.4089 0.0954 0.7809 1.9249	1.7334 0.4115 0.1228 0.7557 1.8821	1.7409 0.4146 0.1464 0.7262 1.8314	1.7496 0.4183 0.1654 0.6940 1.7753	1.7592 0.4224 0.1789 0.6609 1.7169	1.7693 0.4269 0.1861 0.6286 1.6589
0.20	1.7238 0.3904 0.0000 0.8129 1.9783	1.7247 0.3908 0.0325 0.8088 1.9716	1.7274 0.3921 0.0641 0.7970 1.9518	1.7318 0.3941 0.0938 0.7780 1.9201	1.7379 0.3970 0.1207 0.7533 1.8781	1.7453 0.4005 0.1438 0.7242 1.8282	1.7539 0.4045 0.1623 0.6924 1.7730	1.7634 0.4092 0.1754 0.6597 1.7152	1.7734 0.4142 0.1822 0.6277 1.6578
0.25	1.7282 0.3760 0.0000 0.8087 1.9711	1.7291 0.3764 0.0321 0.8048 1.9645	1.7318 0.3778 0.0632 0.7931 1.9451	1.7362 0.3801 0.0924 0.7745 1.9139	1.7422 0.3832 0.1188 0.7501 1.8727	1.7495 0.3871 0.1414 0.7214 1.8236	1.7580 0.3916 0.1594 0.6901 1.7692	1.7674 0.3967 0.1720 0.6578 1.7122	1.7773 0.4022 0.1785 0.6261 1.6553
0.30	1.7325 0.3622 0.0000 0.8040 1.9628	1.7334 0.3627 0.0316 0.8001 1.9564	1.7361 0.3642 0.0623 0.7886 1.9373	1.7404 0.3667 0.0911 0.7703 1.9067	1.7463 0.3701 0.1170 0.7463 1.8662	1.7536 0.3744 0.1392 0.7181 1.8179	1.7620 0.3793 0.1568 0.6872 1.7643	1.7713 0.3848 0.1690 0.6553 1.7079	1.7810 0.3908 0.1751 0.6239 1.6516
0.35	1.7368 0.3490 0.0000 0.7987 1.9536	1.7377 0.3496 0.0312 0.7948 1.9472	1.7403 0.3512 0.0615 0.7836 1.9285	1.7446 0.3539 0.0898 0.7656 1.8985	1.7505 0.3576 0.1153 0.7420 1.8587	1.7577 0.3622 0.1371 0.7143 1.8111	1.7660 0.3676 0.1543 0.6838 1.7583	1.7751 0.3735 0.1662 0.6523 1.7026	1.7847 0.3799 0.1720 0.6213 1.6468
0.40	1.7410 0.3363 0.0000 0.7929 1.9434	1.7419 0.3369 0.0309 0.7891 1.9372	1.7445 0.3387 0.0607 0.7781 1.9189	1.7487 0.3416 0.0887 0.7604 1.8894	1.7545 0.3456 0.1138 0.7372 1.8502	1.7616 0.3505 0.1352 0.7099 1.8035	1.7698 0.3563 0.1520 0.6799 1.7513	1.7789 0.3626 0.1636 0.6488 1.6964	1.7884 0.3695 0.1692 0.6181 1.6411
0.45	1.7452 0.3241 0.0000 0.7866 1.9325	1.7460 0.3247 0.0305 0.7829 1.9264	1.7486 0.3266 0.0601 0.7721 1.9084	1.7528 0.3298 0.0877 0.7548 1.8794	1.7585 0.3340 0.1124 0.7320 1.8409	1.7656 0.3393 0.1335 0.7051 1.7949	1.7737 0.3454 0.1499 0.6756 1.7436	1.7826 0.3522 0.1612 0.6449 1.6893	1.7920 0.3595 0.1665 0.6146 1.6346
0.50	1.7493 0.3122 0.0000 0.7800 1.9208	1.7502 0.3129 0.0302 0.7763 1.9148	1.7527 0.3149 0.0594 0.7657 1.8971	1.7569 0.3183 0.0867 0.7487 1.8687	1.7625 0.3228 0.1112 0.7263 1.8309	1.7694 0.3284 0.1319 0.6999 1.7856	1.7775 0.3349 0.1480 0.6708 1.7350	1.7863 0.3420 0.1590 0.6406 1.6814	1.7955 0.3498 0.1641 0.6106 1.6273

$$M_{\infty} = 3, \beta_{\kappa} = 15^{\circ}, \alpha = 5^{\circ}$$

ξ	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.55	1.7534	1.7543	1.7568	1.7609	1.7665	1.7733	1.7812	1.7899	1.7991
	0.3006	0.3014	0.3035	0.3071	0.3119	0.3178	0.3247	0.3322	0.3403
	0.0000	0.0299	0.0589	0.0859	0.1100	0.1304	0.1462	0.1569	0.1619
	0.7729	0.7693	0.7589	0.7422	0.7203	0.6943	0.6657	0.6359	0.6063
	1.9083	1.9024	1.8851	1.8572	1.8200	1.7755	1.7256	1.6727	1.6192
0.60	1.7576	1.7584	1.7609	1.7649	1.7704	1.7772	1.7850	1.7936	1.8027
	0.2893	0.2901	0.2924	0.2961	0.3012	0.3075	0.3147	0.3226	0.3311
	0.0000	0.0297	0.0584	0.0851	0.1089	0.1291	0.1446	0.1551	0.1599
	0.7054	0.7019	0.7517	0.7353	0.7138	0.6883	0.6602	0.6308	0.6016
	1.8951	1.8893	1.8723	1.8449	1.8085	1.7646	1.7155	1.6633	1.6103
0.65	1.7617	1.7625	1.7650	1.7690	1.7744	1.7811	1.7888	1.7973	1.8063
	0.2782	0.2791	0.2815	0.2854	0.2907	0.2973	0.3049	0.3132	0.3220
	0.0000	0.0294	0.0579	0.0844	0.1080	0.1278	0.1432	0.1534	0.1580
	0.7576	0.7541	0.7441	0.7281	0.7070	0.6819	0.6543	0.6254	0.5966
	1.8812	1.8755	1.8589	1.8320	1.7961	1.7531	1.7047	1.6531	1.6008
0.70	1.7659	1.7667	1.7691	1.7731	1.7785	1.7850	1.7927	1.8011	1.8099
	0.2673	0.2682	0.2707	0.2748	0.2804	0.2873	0.2952	0.3038	0.3130
	0.0000	0.0292	0.0575	0.0837	0.1071	0.1267	0.1418	0.1518	0.1563
	0.7493	0.7460	0.7361	0.7204	0.6997	0.6751	0.6480	0.6195	0.5911
	1.8665	1.8610	1.8446	1.8183	1.7831	1.7407	1.6931	1.6422	1.5905
0.75	1.7702	1.7710	1.7734	1.7772	1.7825	1.7890	1.7966	1.8049	1.8137
	0.2564	0.2573	0.2600	0.2643	0.2702	0.2774	0.2856	0.2946	0.3041
	0.0000	0.0291	0.0571	0.0832	0.1063	0.1257	0.1406	0.1504	0.1547
	0.7406	0.7373	0.7277	0.7124	0.6921	0.6680	0.6413	0.6133	0.5853
	1.8510	1.8456	1.8296	1.8037	1.7692	1.7276	1.6807	1.6305	1.5793
0.80	1.7745	1.7753	1.7776	1.7815	1.7867	1.7931	1.8006	1.8088	1.8175
	0.2456	0.2466	0.2493	0.2539	0.2600	0.2675	0.2760	0.2853	0.2952
	0.0000	0.0289	0.0568	0.0827	0.1056	0.1248	0.1395	0.1491	0.1533
	0.7315	0.7283	0.7189	0.7039	0.6840	0.6604	0.6342	0.6066	0.5790
	1.8347	1.8294	1.8137	1.7884	1.7545	1.7136	1.6674	1.6179	1.5674
0.85	1.7789	1.7797	1.7820	1.7858	1.7910	1.7973	1.8047	1.8128	1.8215
	0.2348	0.2357	0.2386	0.2434	0.2497	0.2575	0.2664	0.2760	0.2861
	0.0000	0.0288	0.0565	0.0822	0.1050	0.1240	0.1385	0.1480	0.1520
	0.7218	0.7187	0.7096	0.6949	0.6754	0.6523	0.6266	0.5995	0.5723
	1.8174	1.8122	1.7968	1.7720	1.7388	1.6986	1.6532	1.6044	1.5544
0.90	1.7835	1.7843	1.7866	1.7903	1.7954	1.8016	1.8089	1.8170	1.8256
	0.2238	0.2248	0.2278	0.2327	0.2393	0.2474	0.2566	0.2665	0.2769
	0.0000	0.0286	0.0562	0.0818	0.1044	0.1233	0.1376	0.1470	0.1509
	0.7116	0.7086	0.6996	0.6853	0.6663	0.6436	0.6184	0.5918	0.5650
	1.7990	1.7939	1.7789	1.7546	1.7220	1.6826	1.6379	1.5897	1.5403
0.95	1.7883	1.7890	1.7913	1.7950	1.8000	1.8062	1.8134	1.8214	1.8300
	0.2126	0.2136	0.2168	0.2219	0.2287	0.2370	0.2465	0.2566	0.2673
	0.0000	0.0285	0.0560	0.0815	0.1040	0.1227	0.1369	0.1461	0.1499
	0.7008	0.6978	0.6891	0.6750	0.6565	0.6343	0.6096	0.5834	0.5570
	1.7793	1.7741	1.7597	1.7359	1.7039	1.6652	1.6212	1.5737	1.5247
1.00	1.7933	1.7941	1.7963	1.7999	1.8049	1.8110	1.8182	1.8262	1.8347
	0.2010	0.2021	0.2053	0.2106	0.2177	0.2263	0.2360	0.2463	0.2571
	0.0000	0.0285	0.0559	0.0812	0.1036	0.1222	0.1362	0.1453	0.1490
	0.6891	0.6862	0.6777	0.6640	0.6459	0.6242	0.6000	0.5742	0.5481
	1.7581	1.7532	1.7388	1.7155	1.6842	1.6462	1.6029	1.5559	1.5074
F_x	0.4384	0.4390	0.4408	0.4436	0.4476	0.4527	0.4587	0.4658	0.4735

$$M_{\infty} = 3, \beta_k = 15^\circ, \alpha = 5^\circ$$

ξ	θ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.00	1.7621	1.7718	1.7809	1.7891	1.7959	1.8010	1.8042	1.8145	1.8053
	0.4721	0.4747	0.4772	0.4794	0.4812	0.4826	0.4834	0.4862	0.4837
	0.2002	0.1932	0.1777	0.1540	0.1230	0.0857	0.0440	0.0000	0.0000
	0.5960	0.5694	0.5474	0.5301	0.5174	0.5089	0.5040	0.5024	0.5024
0.05	1.5849	1.5342	1.4915	1.4578	1.4327	1.4158	1.4061	1.4232	1.4030
	1.7711	1.7816	1.7915	1.8003	1.8076	1.8131	1.8164	1.8176	
	0.4584	0.4619	0.4653	0.4684	0.4711	0.4732	0.4745	0.4749	
	0.1954	0.1883	0.1730	0.1498	0.1194	0.0831	0.0427	0.0000	
0.10	0.5978	0.5711	0.5488	0.5311	0.5180	0.5090	0.5038	0.5021	
	1.6002	1.5511	1.5097	1.4767	1.4521	1.4354	1.4257	1.4226	
	1.7756	1.7859	1.7955	1.8040	1.8111	1.8163	1.8195	1.8206	
	0.4445	0.4487	0.4527	0.4565	0.4597	0.4622	0.4638	0.4643	
0.15	0.1908	0.1835	0.1684	0.1456	0.1159	0.0806	0.0413	0.0000	
	0.5986	0.5719	0.5494	0.5314	0.5178	0.5085	0.5031	0.5014	
	1.6033	1.5540	1.5120	1.4781	1.4525	1.4348	1.4244	1.4210	
	1.7797	1.7897	1.7992	1.8075	1.8143	1.8194	1.8225	1.8236	
0.20	0.4316	0.4363	0.4409	0.4452	0.4490	0.4519	0.4537	0.4544	
	0.1863	0.1790	0.1640	0.1416	0.1126	0.0782	0.0401	0.0000	
	0.5986	0.5718	0.5492	0.5309	0.5171	0.5076	0.5020	0.5001	
	1.6042	1.5548	1.5123	1.4778	1.4514	1.4329	1.4221	1.4185	
0.25	1.7835	1.7935	1.8027	1.8108	1.8175	1.8225	1.8255	1.8266	
	0.4194	0.4247	0.4299	0.4347	0.4388	0.4421	0.4441	0.4448	
	0.1821	0.1747	0.1599	0.1379	0.1096	0.0761	0.0390	0.0000	
	0.5978	0.5711	0.5484	0.5300	0.5159	0.5061	0.5004	0.4985	
0.30	1.6033	1.5539	1.5112	1.4761	1.4491	1.4301	1.4189	1.4152	
	1.7873	1.7970	1.8061	1.8141	1.8207	1.8255	1.8285	1.8295	
	0.4079	0.4137	0.4194	0.4246	0.4292	0.4327	0.4350	0.4358	
	0.1782	0.1708	0.1561	0.1345	0.1068	0.0741	0.0379	0.0000	
0.35	0.5964	0.5698	0.5470	0.5285	0.5143	0.5043	0.4984	0.4965	
	1.6011	1.5517	1.5088	1.4734	1.4459	1.4265	1.4150	1.4111	
	1.7909	1.8005	1.8095	1.8173	1.8238	1.8286	1.8314	1.8325	
	0.3970	0.4033	0.4094	0.4151	0.4200	0.4238	0.4262	0.4270	
0.40	0.1747	0.1672	0.1526	0.1314	0.1043	0.0723	0.0370	0.0000	
	0.5945	0.5680	0.5452	0.5266	0.5122	0.5021	0.4962	0.4942	
	1.5977	1.5484	1.5054	1.4697	1.4419	1.4221	1.4104	1.4064	
	1.7945	1.8039	1.8127	1.8205	1.8268	1.8316	1.8345	1.8354	
0.45	0.3866	0.3933	0.3999	0.4059	0.4111	0.4152	0.4178	0.4186	
	0.1714	0.1639	0.1495	0.1286	0.1020	0.0707	0.0362	0.0000	
	0.5920	0.5657	0.5429	0.5242	0.5098	0.4996	0.4936	0.4916	
	1.5933	1.5441	1.5011	1.4652	1.4371	1.4171	1.4051	1.4011	
0.50	1.7980	1.8073	1.8160	1.8237	1.8299	1.8346	1.8374	1.8384	
	0.3766	0.3838	0.3907	0.3971	0.4026	0.4069	0.4096	0.4105	
	0.1683	0.1608	0.1466	0.1260	0.0999	0.0692	0.0354	0.0000	
	0.5892	0.5629	0.5403	0.5216	0.5071	0.4968	0.4907	0.4887	
0.55	1.5880	1.5390	1.4959	1.4599	1.4316	1.4114	1.3993	1.3952	
	1.8015	1.8107	1.8193	1.8268	1.8330	1.8376	1.8404	1.8414	
	0.3670	0.3746	0.3819	0.3886	0.3943	0.3988	0.4016	0.4025	
	0.1656	0.1580	0.1439	0.1237	0.0979	0.0678	0.0347	0.0000	
0.60	0.5859	0.5598	0.5372	0.5185	0.5040	0.4937	0.4876	0.4855	
	1.5818	1.5331	1.4901	1.4539	1.4255	1.4051	1.3929	1.3888	
	1.8049	1.8140	1.8225	1.8300	1.8361	1.8407	1.8435	1.8444	
	0.3577	0.3656	0.3733	0.3803	0.3862	0.3908	0.3938	0.3948	
0.65	0.1630	0.1555	0.1415	0.1215	0.0962	0.0666	0.0341	0.0000	
	0.5822	0.5564	0.5339	0.5152	0.5007	0.4903	0.4841	0.4821	
	1.5749	1.5264	1.4835	1.4473	1.4188	1.3982	1.3859	1.3817	

$$M_{\infty} = 3, \beta_k = 15^\circ, \alpha = 5^\circ$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.55	1.8084 0.3486 0.1607 0.5782 1.5673	1.8174 0.3569 0.1531 0.5525 1.5190	1.8258 0.3649 0.1393 0.5302 1.4762	1.8332 0.3721 0.1195 0.5116 1.4400	1.8393 0.3783 0.0946 0.4970 1.4114	1.8438 0.3831 0.0655 0.4866 1.3907	1.8466 0.3861 0.0335 0.4804 1.3783	1.8475 0.3871 0.0000 0.4784 1.3741	
0.60	1.8119 0.3398 0.1585 0.5738 1.5589	1.8208 0.3484 0.1510 0.5484 1.5109	1.8291 0.3566 0.1372 0.5261 1.4682	1.8364 0.3641 0.1177 0.5076 1.4321	1.8425 0.3705 0.0931 0.4931 1.4034	1.8470 0.3754 0.0645 0.4827 1.3826	1.8497 0.3785 0.0330 0.4765 1.3701	1.8507 0.3795 0.0000 0.4744 1.3659	
0.65	1.8154 0.3310 0.1566 0.5691 1.5498	1.8242 0.3400 0.1490 0.5439 1.5021	1.8325 0.3485 0.1354 0.5218 1.4596	1.8398 0.3562 0.1161 0.5033 1.4234	1.8457 0.3627 0.0918 0.4888 1.3947	1.8502 0.3677 0.0635 0.4784 1.3739	1.8530 0.3709 0.0325 0.4722 1.3613	1.8539 0.3719 0.0000 0.4701 1.3571	
0.70	1.8189 0.3224 0.1548 0.5640 1.5399	1.8277 0.3316 0.1472 0.5390 1.4926	1.8359 0.3404 0.1336 0.5170 1.4502	1.8432 0.3483 0.1146 0.4986 1.4141	1.8491 0.3549 0.0906 0.4842 1.3853	1.8536 0.3600 0.0627 0.4738 1.3644	1.8563 0.3632 0.0320 0.4675 1.3518	1.8572 0.3643 0.0000 0.4655 1.3475	
0.75	1.8226 0.3138 0.1531 0.5585 1.5293	1.8313 0.3233 0.1455 0.5337 1.4822	1.8395 0.3322 0.1321 0.5119 1.4400	1.8467 0.3403 0.1132 0.4936 1.4039	1.8526 0.3471 0.0895 0.4792 1.3751	1.8571 0.3523 0.0619 0.4688 1.3541	1.8598 0.3555 0.0316 0.4625 1.3414	1.8607 0.3566 0.0000 0.4605 1.3372	
0.80	1.8263 0.3051 0.1516 0.5525 1.5177	1.8350 0.3148 0.1440 0.5280 1.4710	1.8431 0.3240 0.1307 0.5064 1.4289	1.8503 0.3322 0.1119 0.4882 1.3928	1.8563 0.3391 0.0885 0.4737 1.3639	1.8608 0.3443 0.0612 0.4634 1.3429	1.8635 0.3476 0.0313 0.4571 1.3301	1.8644 0.3487 0.0000 0.4550 1.3259	
0.85	1.8303 0.2963 0.1502 0.5461 1.5052	1.8389 0.3062 0.1426 0.5219 1.4587	1.8470 0.3155 0.1294 0.5004 1.4167	1.8542 0.3238 0.1108 0.4822 1.3807	1.8602 0.3308 0.0875 0.4678 1.3517	1.8647 0.3360 0.0606 0.4574 1.3305	1.8675 0.3393 0.0310 0.4511 1.3177	1.8684 0.3404 0.0000 0.4490 1.3134	
0.90	1.8344 0.2873 0.1490 0.5391 1.4915	1.8430 0.2974 0.1414 0.5151 1.4452	1.8511 0.3068 0.1282 0.4937 1.4033	1.8584 0.3151 0.1097 0.4756 1.3671	1.8644 0.3220 0.0867 0.4611 1.3380	1.8690 0.3272 0.0600 0.4507 1.3166	1.8717 0.3305 0.0307 0.4444 1.3036	1.8727 0.3316 0.0000 0.4423 1.2993	
0.95	1.8388 0.2779 0.1479 0.5314 1.4763	1.8474 0.2880 0.1403 0.5076 1.4301	1.8556 0.2974 0.1272 0.4862 1.3881	1.8630 0.3057 0.1088 0.4681 1.3517	1.8691 0.3125 0.0860 0.4536 1.3223	1.8738 0.3176 0.0595 0.4431 1.3006	1.8767 0.3208 0.0304 0.4367 1.2874	1.8776 0.3219 0.0000 0.4345 1.2830	
1.00	1.8435 0.2678 0.1470 0.5228 1.4591	1.8523 0.2780 0.1394 0.4990 1.4129	1.8606 0.2872 0.1263 0.4777 1.3706	1.8682 0.2953 0.1081 0.4594 1.3337	1.8746 0.3018 0.0854 0.4446 1.3036	1.8794 0.3067 0.0591 0.4339 1.2813	1.8824 0.3096 0.0302 0.4273 1.2677	1.8835 0.3106 0.0000 0.4251 1.2631	
F_x	0.4818	0.4904	0.4988	0.5067	0.5136	0.5190	0.5225	0.5237	

$$M_{\infty} = 3, \beta_{\kappa} = 15^{\circ}, \alpha = 10^{\circ}$$

ξ	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.00	1.6315	1.6330	1.6377	1.6453	1.6558	1.6689	1.6843	1.7016	1.7205
	0.4371	0.4376	0.4388	0.4409	0.4437	0.4472	0.4513	0.4559	0.4610
	0.0000	0.0622	0.1233	0.1819	0.2368	0.2869	0.3305	0.3662	0.3919
	1.0437	1.0329	1.0015	0.9519	0.8882	0.8151	0.7378	0.6612	0.5900
0.05	2.3214	2.3043	2.2539	2.1735	2.0687	1.9456	1.8119	1.6756	1.5445
	1.6366	1.6383	1.6432	1.6513	1.6624	1.6761	1.6924	1.7108	1.7308
	0.4181	0.4186	0.4202	0.4228	0.4263	0.4308	0.4361	0.4421	0.4488
	0.0000	0.0615	0.1217	0.1793	0.2331	0.2818	0.3238	0.3577	0.3814
0.10	1.0430	1.0324	1.0016	0.9531	0.8907	0.8191	0.7474	0.6681	0.5979
	2.3203	2.3039	2.2559	2.1793	2.0790	1.9612	1.8331	1.7020	1.5757
	1.6416	1.6433	1.6483	1.6564	1.6676	1.6815	1.6979	1.7163	1.7363
	0.4001	0.4007	0.4026	0.4056	0.4098	0.4151	0.4214	0.4286	0.4365
0.15	0.0000	0.0607	0.1201	0.1769	0.2297	0.2771	0.3178	0.3502	0.3724
	1.0410	1.0307	1.0005	0.9530	0.8919	0.8218	0.7474	0.6735	0.6043
	2.3171	2.3012	2.2547	2.1804	2.0831	1.9688	1.8442	1.7166	1.5931
	1.6465	1.6482	1.6532	1.6614	1.6725	1.6864	1.7028	1.7211	1.7409
0.20	0.3831	0.3838	0.3859	0.3894	0.3943	0.4004	0.4077	0.4159	0.4250
	0.0000	0.0600	0.1187	0.1746	0.2264	0.2728	0.3122	0.3432	0.3641
	1.0379	1.0277	0.9982	0.9518	0.8920	0.8232	0.7503	0.6776	0.6094
	2.3121	2.2967	2.2515	2.1793	2.0848	1.9735	1.8521	1.7274	1.6063
0.25	1.6513	1.6530	1.6579	1.6661	1.6772	1.6910	1.7072	1.7254	1.7450
	0.3669	0.3677	0.3701	0.3741	0.3796	0.3865	0.3947	0.4040	0.4142
	0.0000	0.0594	0.1174	0.1726	0.2235	0.2688	0.3071	0.3369	0.3565
	1.0337	1.0239	0.9950	0.9495	0.8910	0.8236	0.7521	0.6807	0.6134
0.30	2.3055	2.2906	2.2466	2.1764	2.0844	1.9760	1.8575	1.7354	1.6165
	1.6559	1.6576	1.6626	1.6707	1.6817	1.6954	1.7115	1.7294	1.7487
	0.3515	0.3524	0.3550	0.3595	0.3656	0.3733	0.3824	0.3928	0.4041
	0.0000	0.0588	0.1162	0.1707	0.2208	0.2651	0.3024	0.3310	0.3495
0.35	1.0288	1.0191	0.9909	0.9464	0.8891	0.8231	0.7529	0.6827	0.6164
	2.2976	2.2831	2.2403	2.1720	2.0823	1.9765	1.8607	1.7412	1.6243
	1.6605	1.6622	1.6671	1.6751	1.6861	1.6996	1.7155	1.7332	1.7523
	0.3367	0.3376	0.3406	0.3455	0.3522	0.3607	0.3708	0.3822	0.3945
0.40	0.0000	0.0583	0.1151	0.1689	0.2183	0.2618	0.2980	0.3256	0.3431
	1.0231	1.0136	0.9860	0.9425	0.8864	0.8218	0.7529	0.6839	0.6185
	2.2885	2.2743	2.2327	2.1662	2.0787	1.9755	1.8623	1.7451	1.6301
	1.6650	1.6667	1.6715	1.6795	1.6903	1.7037	1.7194	1.7368	1.7556
0.45	0.3224	0.3235	0.3267	0.3321	0.3395	0.3488	0.3597	0.3720	0.3854
	0.0000	0.0579	0.1142	0.1674	0.2161	0.2587	0.2940	0.3207	0.3371
	1.0167	1.0074	0.9804	0.9379	0.8830	0.8197	0.7522	0.6844	0.6199
	2.2783	2.2645	2.2239	2.1591	2.0739	1.9731	1.8623	1.7473	1.6341
0.50	1.6695	1.6711	1.6759	1.6838	1.6945	1.7077	1.7232	1.7404	1.7588
	0.3087	0.3099	0.3134	0.3192	0.3272	0.3373	0.3491	0.3624	0.3767
	0.0000	0.0574	0.1133	0.1660	0.2140	0.2560	0.2905	0.3162	0.3317
	1.0096	1.0006	0.9743	0.9326	0.8789	0.8170	0.7508	0.6842	0.6206
0.55	2.2670	2.2536	2.2141	2.1510	2.0678	1.9694	1.8609	1.7481	1.6367
	1.6739	1.6755	1.6802	1.6880	1.6986	1.7116	1.7268	1.7438	1.7620
	0.2954	0.2967	0.3005	0.3068	0.3154	0.3262	0.3389	0.3532	0.3684
	0.0000	0.0571	0.1125	0.1647	0.2122	0.2534	0.2871	0.3120	0.3267
0.60	1.0021	0.9932	0.9675	0.9268	0.8743	0.8137	0.7487	0.6833	0.6207
	2.2549	2.2418	2.2034	2.1418	2.0607	1.9645	1.8583	1.7476	1.6377
	1.6783	1.6798	1.6845	1.6922	1.7026	1.7155	1.7304	1.7471	1.7650
	0.2825	0.2839	0.2880	0.2947	0.3040	0.3156	0.3291	0.3443	0.3605
0.65	0.0000	0.0567	0.1118	0.1636	0.2105	0.2512	0.2841	0.3082	0.3220
	0.9940	0.9854	0.9602	0.9205	0.8692	0.8098	0.7462	0.6819	0.6202
	2.2418	2.2291	2.1917	2.1317	2.0526	1.9586	1.8547	1.7460	1.6377

$$M_{\infty} = 3, \beta_k = 15^\circ, \alpha = 10^\circ$$

ξ	θ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.55	1.6826 0.2699 0.0000 0.9854 2.2279	1.6842 0.2714 0.0565 0.9770 2.2156	1.6888 0.2758 0.1112 0.9524 2.1792	1.6963 0.2830 0.1626 0.9137 2.1207	1.7066 0.2929 0.2091 0.8635 2.0436	1.7192 0.3052 0.2491 0.8054 1.9518	1.7340 0.3196 0.2814 0.7431 1.8500	1.7504 0.3357 0.3046 0.6800 1.7433	1.7680 0.3528 0.3178 0.6192 1.6366
0.60	1.6870 0.2576 0.0000 0.9763 2.2132	1.6885 0.2592 0.0562 0.9681 2.2012	1.6930 0.2639 0.1107 0.9442 2.1658	1.7005 0.2716 0.1617 0.9063 2.1089	1.7105 0.2821 0.2077 0.8574 2.0337	1.7230 0.2952 0.2472 0.8006 1.9440	1.7375 0.3104 0.2789 0.7395 1.8444	1.7537 0.3273 0.3014 0.6776 1.7396	1.7710 0.3453 0.3139 0.6178 1.6345
0.65	1.6913 0.2455 0.0000 0.9667 2.1977	1.6928 0.2472 0.0560 0.9587 2.1860	1.6973 0.2522 0.1103 0.9354 2.1516	1.7046 0.2604 0.1610 0.8985 2.0962	1.7145 0.2715 0.2066 0.8507 2.0229	1.7267 0.2853 0.2455 0.7953 1.9353	1.7410 0.3014 0.2766 0.7355 1.8378	1.7569 0.3192 0.2985 0.6747 1.7350	1.7740 0.3380 0.3103 0.6159 1.6315
0.70	1.6957 0.2337 0.0000 0.9567 2.1814	1.6972 0.2354 0.0559 0.9489 2.1701	1.7016 0.2407 0.1099 0.9262 2.1366	1.7087 0.2493 0.1603 0.8903 2.0828	1.7185 0.2611 0.2056 0.8437 2.0113	1.7305 0.2757 0.2440 0.7895 1.9258	1.7445 0.2926 0.2745 0.7310 1.8304	1.7601 0.3112 0.2958 0.6714 1.7295	1.7770 0.3308 0.3070 0.6135 1.6275
0.75	1.7001 0.2219 0.0000 0.9462 2.1643	1.7016 0.2238 0.0557 0.9386 2.1533	1.7059 0.2294 0.1096 0.9166 2.1208	1.7129 0.2385 0.1598 0.8816 2.0684	1.7224 0.2509 0.2047 0.8362 1.9989	1.7342 0.2662 0.2427 0.7833 1.9155	1.7480 0.2839 0.2727 0.7261 1.8222	1.7634 0.3034 0.2934 0.6677 1.7232	1.7800 0.3238 0.3040 0.6107 1.6227
0.80	1.7046 0.2102 0.0000 0.9352 2.1463	1.7060 0.2122 0.0556 0.9278 2.1356	1.7102 0.2181 0.1093 0.9064 2.1041	1.7171 0.2277 0.1593 0.8724 2.0532	1.7265 0.2407 0.2039 0.8281 1.9855	1.7380 0.2568 0.2416 0.7766 1.9042	1.7515 0.2753 0.2710 0.7207 1.8130	1.7667 0.2956 0.2912 0.6635 1.7159	1.7830 0.3168 0.3012 0.6075 1.6170
0.85	1.7092 0.1986 0.0000 0.9236 2.1273	1.7106 0.2007 0.0555 0.9165 2.1170	1.7147 0.2069 0.1092 0.8957 2.0864	1.7214 0.2169 0.1590 0.8627 2.0371	1.7306 0.2306 0.2033 0.8196 1.9713	1.7419 0.2475 0.2406 0.7694 1.8921	1.7551 0.2668 0.2695 0.7149 1.8030	1.7700 0.2879 0.2892 0.6589 1.7078	1.7861 0.3098 0.2987 0.6038 1.6104
0.90	1.7138 0.1869 0.0000 0.9115 2.1074	1.7152 0.1891 0.0555 0.9046 2.0973	1.7192 0.1956 0.1091 0.8845 2.0678	1.7258 0.2062 0.1587 0.8524 2.0199	1.7347 0.2205 0.2028 0.8106 1.9560	1.7458 0.2381 0.2397 0.7618 1.8790	1.7588 0.2583 0.2683 0.7086 1.7920	1.7734 0.2802 0.2874 0.6538 1.6987	1.7892 0.3029 0.2964 0.5997 1.6029
0.95	1.7186 0.1751 0.0000 0.8988 2.0862	1.7200 0.1774 0.0555 0.8921 2.0766	1.7239 0.1842 0.1090 0.8726 2.0480	1.7303 0.1953 0.1585 0.8415 2.0017	1.7390 0.2103 0.2024 0.8010 1.9397	1.7499 0.2287 0.2390 0.7535 1.8648	1.7626 0.2496 0.2672 0.7017 1.7799	1.7769 0.2724 0.2858 0.6481 1.6886	1.7925 0.2958 0.2944 0.5951 1.5944
1.00	1.7236 0.1631 0.0000 0.8852 2.0638	1.7249 0.1655 0.0555 0.8788 2.0544	1.7287 0.1727 0.1090 0.8599 2.0269	1.7349 0.1843 0.1585 0.8299 1.9821	1.7435 0.1999 0.2022 0.7907 1.9221	1.7540 0.2191 0.2385 0.7446 1.8493	1.7665 0.2409 0.2662 0.6942 1.7667	1.7806 0.2644 0.2845 0.6419 1.6773	1.7960 0.2885 0.2926 0.5898 1.5846
F_x	0.4176	0.4185	0.4212	0.4258	0.4323	0.4408	0.4514	0.4641	0.4789

$$M_{\infty} = 3, \beta_{\kappa} = 15^{\circ}, \alpha = 10^{\circ}$$

ξ	θ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.00	1.7402	1.7602	1.7795	1.7970	1.8118	1.8229	1.8297	1.8522	1.8320
	0.4663	0.4716	0.4768	0.4815	0.4855	0.4884	0.4903	0.4963	0.4909
	0.4049	0.4017	0.3788	0.3338	0.2685	0.1869	0.0953	0.0000	0.0000
	0.5278	0.4780	0.4423	0.4206	0.4099	0.4062	0.4057	0.4059	0.4059
	1.4265	1.3290	1.2573	1.2128	1.1907	1.1831	1.1821	1.2230	1.1824
0.05	1.7519	1.7733	1.7941	1.8132	1.8296	1.8422	1.8500	1.8525	
	0.4558	0.4631	0.4706	0.4779	0.4848	0.4906	0.4943	0.4954	
	0.3926	0.3881	0.3648	0.3209	0.2581	0.1803	0.0928	0.0000	
	0.5363	0.4864	0.4499	0.4266	0.4140	0.4083	0.4063	0.4058	
	1.4615	1.3666	1.2963	1.2520	1.2298	1.2224	1.2222	1.2230	
0.10	1.7573	1.7785	1.7989	1.8174	1.8328	1.8441	1.8508	1.8530	
	0.4449	0.4537	0.4626	0.4716	0.4802	0.4875	0.4922	0.4937	
	0.3823	0.3769	0.3534	0.3103	0.2492	0.1739	0.0893	0.0000	
	0.5433	0.4933	0.4562	0.4315	0.4172	0.4099	0.4066	0.4057	
	1.4808	1.3866	1.3152	1.2681	1.2416	1.2291	1.2241	1.2228	
0.15	1.7616	1.7825	1.8024	1.8202	1.8348	1.8454	1.8516	1.8537	
	0.4347	0.4447	0.4551	0.4655	0.4755	0.4839	0.4896	0.4914	
	0.3728	0.3665	0.3428	0.3004	0.2408	0.1677	0.0860	0.0000	
	0.5489	0.4990	0.4612	0.4355	0.4197	0.4110	0.4068	0.4055	
	1.4956	1.4017	1.3291	1.2793	1.2490	1.2326	1.2247	1.2223	
0.20	1.7654	1.7858	1.8053	1.8226	1.8366	1.8466	1.8526	1.8546	
	0.4251	0.4363	0.4479	0.4596	0.4708	0.4802	0.4865	0.4886	
	0.3640	0.3570	0.3332	0.2914	0.2332	0.1622	0.0831	0.0000	
	0.5535	0.5036	0.4653	0.4385	0.4216	0.4117	0.4067	0.4051	
	1.5072	1.4134	1.3397	1.2875	1.2541	1.2346	1.2246	1.2214	
0.25	1.7688	1.7883	1.8077	1.8247	1.8382	1.8480	1.8537	1.8557	
	0.4161	0.4285	0.4412	0.4539	0.4661	0.4763	0.4831	0.4855	
	0.3560	0.3483	0.3243	0.2831	0.2262	0.1572	0.0805	0.0000	
	0.5571	0.5073	0.4686	0.4410	0.4229	0.4120	0.4063	0.4046	
	1.5162	1.4226	1.3479	1.2935	1.2575	1.2356	1.2239	1.2202	
0.30	1.7720	1.7917	1.8103	1.8267	1.8399	1.8494	1.8550	1.8569	
	0.4076	0.4210	0.4347	0.4484	0.4614	0.4723	0.4795	0.4820	
	0.3486	0.3403	0.3162	0.2756	0.2200	0.1528	0.0782	0.0000	
	0.5598	0.5101	0.4711	0.4427	0.4237	0.4120	0.4058	0.4038	
	1.5231	1.4297	1.3541	1.2979	1.2597	1.2357	1.2227	1.2185	
0.35	1.7750	1.7944	1.8127	1.8287	1.8416	1.8509	1.8565	1.8583	
	0.3995	0.4139	0.4286	0.4431	0.4568	0.4681	0.4757	0.4783	
	0.3418	0.3329	0.3088	0.2688	0.2144	0.1489	0.0762	0.0000	
	0.5617	0.5123	0.4729	0.4439	0.4241	0.4117	0.4050	0.4028	
	1.5282	1.4350	1.3586	1.3009	1.2608	1.2351	1.2210	1.2164	
0.40	1.7780	1.7970	1.8149	1.8307	1.8434	1.8525	1.8580	1.8598	
	0.3918	0.4072	0.4227	0.4379	0.4522	0.4639	0.4717	0.4744	
	0.3356	0.3262	0.3020	0.2626	0.2093	0.1453	0.0744	0.0000	
	0.5630	0.5137	0.4741	0.4446	0.4242	0.4111	0.4039	0.4016	
	1.5318	1.4388	1.3618	1.3028	1.2610	1.2339	1.2188	1.2139	
0.45	1.7808	1.7995	1.8172	1.8327	1.8452	1.8542	1.8597	1.8615	
	0.3844	0.4007	0.4170	0.4328	0.4476	0.4597	0.4676	0.4704	
	0.3298	0.3200	0.2958	0.2569	0.2047	0.1421	0.0727	0.0000	
	0.5637	0.5146	0.4749	0.4448	0.4238	0.4102	0.4026	0.4002	
	1.5340	1.4413	1.3638	1.3036	1.2604	1.2320	1.2160	1.2108	
0.50	1.7836	1.8020	1.8194	1.8347	1.8471	1.8561	1.8614	1.8633	
	0.3773	0.3944	0.4114	0.4278	0.4429	0.4553	0.4634	0.4662	
	0.3246	0.3143	0.2901	0.2517	0.2005	0.1392	0.0712	0.0000	
	0.5639	0.5150	0.4751	0.4447	0.4231	0.4090	0.4011	0.3986	
	1.5350	1.4427	1.3647	1.3035	1.2591	1.2295	1.2128	1.2073	

$$M_{\infty} = 3, \beta_K = 15^\circ, \alpha = 10^\circ$$

η	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.55	1.7863 0.3705 0.3197 0.5635 1.5349	1.8045 0.3883 0.3090 0.5149 1.4430	1.8217 0.4059 0.2849 0.4749 1.3647	1.8368 0.4228 0.2470 0.4441 1.3025	1.8491 0.4383 0.1967 0.4221 1.2570	1.8580 0.4509 0.1366 0.4075 1.2264	1.8633 0.4591 0.0699 0.3994 1.2090	1.8651 0.4620 0.0000 0.3967 1.2033	
0.60	1.7890 0.3638 0.3152 0.5627 1.5339	1.8070 0.3824 0.3042 0.5144 1.4423	1.8239 0.4005 0.2801 0.4743 1.3637	1.8390 0.4179 0.2427 0.4432 1.3008	1.8511 0.4336 0.1932 0.4207 1.2542	1.8600 0.4463 0.1342 0.4058 1.2226	1.8654 0.4546 0.0687 0.3974 1.2046	1.8672 0.4575 0.0000 0.3946 1.1988	
0.65	1.7917 0.3573 0.3111 0.5614 1.5319	1.8095 0.3765 0.2997 0.5134 1.4407	1.8263 0.3952 0.2756 0.4734 1.3619	1.8412 0.4129 0.2387 0.4419 1.2982	1.8533 0.4288 0.1900 0.4190 1.2506	1.8622 0.4416 0.1320 0.4037 1.2183	1.8675 0.4500 0.0676 0.3951 1.1996	1.8694 0.4529 0.0000 0.3922 1.1935	
0.70	1.7945 0.3509 0.3073 0.5597 1.5290	1.8120 0.3707 0.2956 0.5120 1.4382	1.8286 0.3899 0.2716 0.4720 1.3592	1.8435 0.4078 0.2350 0.4403 1.2949	1.8556 0.4239 0.1871 0.4170 1.2464	1.8645 0.4368 0.1300 0.4014 1.2131	1.8699 0.4452 0.0666 0.3925 1.1940	1.8717 0.4481 0.0000 0.3895 1.1877	
0.75	1.7972 0.3446 0.3037 0.5576 1.5252	1.8146 0.3650 0.2918 0.5103 1.4349	1.8311 0.3845 0.2678 0.4702 1.3558	1.8459 0.4027 0.2317 0.4383 1.2907	1.8581 0.4188 0.1844 0.4146 1.2413	1.8670 0.4317 0.1282 0.3986 1.2072	1.8725 0.4401 0.0657 0.3895 1.1875	1.8743 0.4430 0.0000 0.3865 1.1811	
0.80	1.8000 0.3383 0.3005 0.5551 1.5206	1.8172 0.3592 0.2883 0.5081 1.4308	1.8337 0.3791 0.2643 0.4680 1.3514	1.8485 0.3974 0.2286 0.4359 1.2857	1.8607 0.4135 0.1820 0.4118 1.2353	1.8698 0.4264 0.1265 0.3955 1.2004	1.8753 0.4347 0.0649 0.3861 1.1801	1.8771 0.4376 0.0000 0.3830 1.1735	
0.85	1.8029 0.3319 0.2976 0.5521 1.5151	1.8199 0.3534 0.2851 0.5055 1.4257	1.8364 0.3735 0.2611 0.4654 1.3461	1.8513 0.3919 0.2257 0.4330 1.2796	1.8636 0.4079 0.1797 0.4085 1.2283	1.8728 0.4206 0.1250 0.3918 1.1924	1.8785 0.4288 0.0641 0.3821 1.1715	1.8803 0.4317 0.0000 0.3790 1.1646	
0.90	1.8059 0.3256 0.2949 0.5487 1.5086	1.8228 0.3474 0.2822 0.5024 1.4197	1.8392 0.3678 0.2582 0.4623 1.3398	1.8543 0.3861 0.2231 0.4295 1.2725	1.8669 0.4018 0.1777 0.4046 1.2199	1.8763 0.4142 0.1237 0.3874 1.1829	1.8821 0.4222 0.0634 0.3774 1.1612	1.8841 0.4250 0.0000 0.3742 1.1540	
0.95	1.8090 0.3190 0.2924 0.5447 1.5011	1.8258 0.3413 0.2795 0.4988 1.4125	1.8423 0.3617 0.2555 0.4586 1.3323	1.8576 0.3797 0.2207 0.4254 1.2638	1.8706 0.3950 0.1758 0.3998 1.2096	1.8805 0.4068 0.1225 0.3820 1.1710	1.8866 0.4144 0.0629 0.3715 1.1482	1.8886 0.4171 0.0000 0.3681 1.1406	
1.00	1.8123 0.3123 0.2902 0.5402 1.4924	1.8291 0.3348 0.2770 0.4945 1.4041	1.8458 0.3551 0.2530 0.4542 1.3233	1.8615 0.3726 0.2185 0.4204 1.2531	1.8752 0.3869 0.1742 0.3937 1.1964	1.8859 0.3974 0.1215 0.3746 1.1549	1.8927 0.4040 0.0624 0.3633 1.1299	1.8950 0.4063 0.0000 0.3595 1.1215	
F_x	0.4957	0.5140	0.5333	0.5526	0.5706	0.5857	0.5958	0.5994	

$$M_{\infty} = 3, \beta_{\kappa} = 20^{\circ}, \alpha = 5^{\circ}$$

ξ	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.00	1.5736	1.5746	1.5774	1.5821	1.5885	1.5964	1.6055	1.6156	1.6263
	0.5727	0.5731	0.5741	0.5759	0.5782	0.5810	0.5844	0.5880	0.5919
	0.0000	0.0305	0.0601	0.0879	0.1132	0.1350	0.1525	0.1650	0.1716
	1.0808	1.0756	1.0604	1.0362	1.0044	0.9669	0.9259	0.8835	0.8417
0.05	2.3673	2.3592	2.3354	2.2972	2.2466	2.1864	2.1197	2.0499	1.9801
	1.5794	1.5805	1.5839	1.5894	1.5969	1.6062	1.6170	1.6289	1.6416
	0.5571	0.5575	0.5589	0.5610	0.5639	0.5676	0.5718	0.5764	0.5814
	0.0000	0.0307	0.0605	0.0885	0.1138	0.1356	0.1531	0.1654	0.1718
0.10	1.0802	1.0750	1.0600	1.0360	1.0045	0.9673	0.9265	0.8843	0.8427
	2.3064	2.3589	2.3369	2.3015	2.2547	2.1990	2.1373	2.0726	2.0081
	1.5850	1.5862	1.5896	1.5952	1.6027	1.6121	1.6229	1.6349	1.6476
	0.5422	0.5427	0.5441	0.5464	0.5496	0.5535	0.5580	0.5630	0.5683
0.15	0.0000	0.0307	0.0605	0.0885	0.1137	0.1354	0.1527	0.1649	0.1712
	1.0785	1.0734	1.0585	1.0348	1.0036	0.9667	0.9262	0.8842	0.8427
	2.3637	2.3564	2.3349	2.3003	2.2544	2.1997	2.1389	2.0750	2.0111
	1.5905	1.5917	1.5951	1.6007	1.6083	1.6176	1.6285	1.6404	1.6530
0.20	0.5279	0.5284	0.5300	0.5325	0.5358	0.5400	0.5448	0.5501	0.5557
	0.0000	0.0306	0.0604	0.0882	0.1134	0.1349	0.1520	0.1640	0.1701
	1.0758	1.0708	1.0561	1.0326	1.0017	0.9651	0.9249	0.8832	0.8419
	2.3596	2.3524	2.3313	2.2973	2.2522	2.1983	2.1383	2.0750	2.0115
0.25	1.5959	1.5971	1.6005	1.6061	1.6137	1.6230	1.6338	1.6456	1.6581
	0.5143	0.5148	0.5164	0.5191	0.5227	0.5271	0.5322	0.5378	0.5438
	0.0000	0.0305	0.0601	0.0879	0.1129	0.1342	0.1511	0.1629	0.1688
	1.0723	1.0673	1.0528	1.0295	0.9989	0.9627	0.9229	0.8815	0.8404
0.30	2.3540	2.3470	2.3262	2.2928	2.2484	2.1952	2.1359	2.0732	2.0101
	1.6012	1.6024	1.6058	1.6114	1.6189	1.6282	1.6389	1.6506	1.6630
	0.5011	0.5017	0.5034	0.5062	0.5100	0.5147	0.5201	0.5260	0.5323
	0.0000	0.0304	0.0599	0.0875	0.1123	0.1335	0.1502	0.1617	0.1674
0.35	1.0680	1.0631	1.0487	1.0257	0.9955	0.9596	0.9201	0.8790	0.8381
	2.3473	2.3404	2.3199	2.2870	2.2432	2.1908	2.1321	2.0700	2.0072
	1.6065	1.6076	1.6110	1.6165	1.6240	1.6332	1.6439	1.6555	1.6678
	0.4885	0.4891	0.4909	0.4939	0.4979	0.5028	0.5085	0.5147	0.5213
0.40	0.0000	0.0303	0.0597	0.0871	0.1117	0.1327	0.1492	0.1605	0.1660
	1.0630	1.0581	1.0439	1.0212	0.9913	0.9558	0.9167	0.8759	0.8353
	2.3394	2.3326	2.3125	2.2801	2.2369	2.1851	2.1271	2.0656	2.0032
	1.6116	1.6128	1.6161	1.6216	1.6291	1.6382	1.6488	1.6604	1.6725
0.45	0.4763	0.4769	0.4788	0.4819	0.4861	0.4913	0.4973	0.5038	0.5106
	0.0000	0.0302	0.0594	0.0867	0.1112	0.1319	0.1482	0.1593	0.1647
	1.0573	1.0525	1.0385	1.0161	0.9865	0.9514	0.9127	0.8723	0.8319
	2.3305	2.3238	2.3040	2.2721	2.2295	2.1784	2.1210	2.0600	1.9980
0.50	1.6168	1.6179	1.6212	1.6267	1.6341	1.6432	1.6536	1.6651	1.6772
	0.4644	0.4651	0.4671	0.4703	0.4748	0.4802	0.4864	0.4932	0.5004
	0.0000	0.0301	0.0592	0.0863	0.1106	0.1312	0.1473	0.1582	0.1633
	1.0510	1.0463	1.0325	1.0103	0.9811	0.9465	0.9081	0.8681	0.8280
0.55	2.3206	2.3140	2.2945	2.2631	2.2211	2.1706	2.1139	2.0534	1.9918
	1.6219	1.6230	1.6263	1.6317	1.6390	1.6480	1.6584	1.6698	1.6817
	0.4528	0.4536	0.4557	0.4591	0.4637	0.4694	0.4759	0.4830	0.4904
	0.0000	0.0300	0.0589	0.0859	0.1101	0.1305	0.1464	0.1571	0.1620
0.60	1.0442	1.0396	1.0259	1.0041	0.9752	0.9410	0.9030	0.8634	0.8237
	2.3098	2.3033	2.2842	2.2532	2.2118	2.1620	2.1058	2.0459	1.9847
	1.6269	1.6280	1.6313	1.6367	1.6439	1.6528	1.6631	1.6744	1.6863
	0.4416	0.4423	0.4445	0.4481	0.4530	0.4589	0.4656	0.4730	0.4808
0.65	0.0000	0.0299	0.0587	0.0856	0.1096	0.1298	0.1455	0.1560	0.1608
	1.0368	1.0323	1.0188	0.9973	0.9688	0.9349	0.8975	0.8582	0.8188
	2.2982	2.2918	2.2729	2.2424	2.2016	2.1524	2.0969	2.0375	1.9768
	1.6311	1.6322	1.6355	1.6409	1.6481	1.6569	1.6672	1.6788	1.6908

$$M_{\infty} = 3, \beta_{\kappa} = 20^{\circ}, \alpha = 5^{\circ}$$

ξ	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.55	1.6320 0.4306 0.0000 1.0289 2.2857	1.6331 0.4314 0.0298 1.0244 2.2794	1.6363 0.4337 0.0585 1.0112 2.2608	1.6416 0.4374 0.0853 0.9899 2.2308	1.6488 0.4424 0.1091 0.9619 2.1906	1.6577 0.4486 0.1291 0.9285 2.1420	1.6678 0.4556 0.1447 0.8914 2.0871	1.6790 0.4633 0.1550 0.8525 2.0283	1.6908 0.4713 0.1596 0.8135 1.9680
0.60	1.6370 0.4198 0.0000 1.0206 2.2724	1.6381 0.4206 0.0297 1.0161 2.2662	1.6414 0.4230 0.0583 1.0031 2.2479	1.6466 0.4269 0.0849 0.9822 2.2183	1.6537 0.4321 0.1086 0.9515 2.1787	1.6625 0.4385 0.1285 0.9215 2.1308	1.6725 0.4458 0.1439 0.8849 2.0765	1.6836 0.4538 0.1540 0.8405 2.0183	1.6953 0.4620 0.1585 0.8078 1.9585
0.65	1.6421 0.4092 0.0000 1.0117 2.2582	1.6432 0.4100 0.0296 1.0073 2.2521	1.6464 0.4125 0.0581 0.9945 2.2342	1.6516 0.4165 0.0847 0.9739 2.2051	1.6586 0.4220 0.1082 0.9466 2.1660	1.6673 0.4286 0.1280 0.9141 2.1187	1.6773 0.4362 0.1431 0.8780 2.0652	1.6882 0.4444 0.1531 0.8400 2.0075	1.6998 0.4529 0.1574 0.8017 1.9481
0.70	1.6472 0.3987 0.0000 1.0023 2.2433	1.6483 0.3995 0.0295 0.9980 2.2373	1.6514 0.4021 0.0580 0.9854 2.2196	1.6566 0.4063 0.0844 0.9651 2.1910	1.6635 0.4120 0.1078 0.9383 2.1525	1.6721 0.4189 0.1274 0.9062 2.1059	1.6820 0.4267 0.1424 0.8706 2.0529	1.6929 0.4352 0.1522 0.8330 1.9959	1.7044 0.4439 0.1564 0.7952 1.9370
0.75	1.6524 0.3882 0.0000 0.9924 2.2275	1.6534 0.3892 0.0294 0.9882 2.2216	1.6566 0.3918 0.0578 0.9758 2.2042	1.6616 0.3962 0.0841 0.9559 2.1760	1.6685 0.4021 0.1075 0.9294 2.1382	1.6770 0.4092 0.1269 0.8979 2.0922	1.6868 0.4173 0.1418 0.8627 2.0399	1.6976 0.4260 0.1514 0.8256 1.9834	1.7090 0.4350 0.1554 0.7882 1.9250
0.80	1.6576 0.3779 0.0000 0.9821 2.2108	1.6587 0.3788 0.0294 0.9779 2.2050	1.6617 0.3816 0.0577 0.9657 2.1879	1.6667 0.3861 0.0839 0.9461 2.1602	1.6736 0.3922 0.1071 0.9201 2.1230	1.6819 0.3995 0.1264 0.8890 2.0776	1.6916 0.4079 0.1412 0.8544 2.0260	1.7023 0.4169 0.1507 0.8178 1.9701	1.7136 0.4261 0.1545 0.7807 1.9122
0.85	1.6629 0.3675 0.0000 0.9711 2.1931	1.6640 0.3685 0.0293 0.9670 2.1875	1.6670 0.3714 0.0576 0.9551 2.1707	1.6720 0.3761 0.0837 0.9358 2.1435	1.6787 0.3823 0.1068 0.9103 2.1068	1.6870 0.3899 0.1260 0.8797 2.0621	1.6966 0.3985 0.1406 0.8455 2.0111	1.7072 0.4077 0.1500 0.8094 1.9559	1.7184 0.4172 0.1537 0.7727 1.8984
0.90	1.6684 0.3572 0.0000 0.9596 2.1745	1.6694 0.3582 0.0293 0.9556 2.1689	1.6724 0.3611 0.0575 0.9438 2.1525	1.6773 0.3660 0.0835 0.9249 2.1257	1.6839 0.3724 0.1066 0.8998 2.0897	1.6921 0.3802 0.1256 0.8698 2.0456	1.7017 0.3890 0.1401 0.8361 1.9953	1.7122 0.3985 0.1493 0.8005 1.9406	1.7233 0.4082 0.1529 0.7642 1.8836
0.95	1.6740 0.3467 0.0000 0.9474 2.1547	1.6750 0.3477 0.0292 0.9434 2.1492	1.6779 0.3508 0.0574 0.9319 2.1331	1.6828 0.3558 0.0834 0.9134 2.1068	1.6893 0.3624 0.1063 0.8888 2.0714	1.6975 0.3704 0.1253 0.8592 2.0280	1.7069 0.3795 0.1396 0.8261 1.9783	1.7173 0.3892 0.1487 0.7909 1.9242	1.7284 0.3990 0.1522 0.7551 1.8677
1.00	1.6797 0.3360 0.0000 0.9344 2.1336	1.6807 0.3371 0.0292 0.9306 2.1283	1.6836 0.3402 0.0573 0.9193 2.1124	1.6884 0.3454 0.0833 0.9011 2.0866	1.6949 0.3522 0.1061 0.8770 2.0518	1.7030 0.3605 0.1250 0.8479 2.0091	1.7123 0.3697 0.1392 0.8154 1.9601	1.7227 0.3796 0.1482 0.7807 1.9066	1.7337 0.3897 0.1515 0.7453 1.8505
F_x	0.5457	0.5461	0.5475	0.5496	0.5527	0.5565	0.5610	0.5661	0.5716

$$M_{\infty} = 3, \beta_{\kappa} = 20^{\circ}, \alpha = 5^{\circ}$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.00	1.6372 0.5959 0.1718 0.8024 1.9136	1.6479 0.5998 0.1651 0.7670 1.8530	1.6579 0.6034 0.1514 0.7366 1.8001	1.6669 0.6067 0.1309 0.7117 1.7565	1.6744 0.6094 0.1043 0.6926 1.7227	1.6800 0.6115 0.0726 0.6791 1.6987	1.6835 0.6127 0.0373 0.6712 1.6845	1.7076 0.6215 0.0000 0.6686 1.7347	1.6847 0.6132 0.0000 0.6686 1.6799
0.05	1.6547 0.5865 0.1718 0.8034 1.9467	1.6675 0.5915 0.1650 0.7679 1.8909	1.6796 0.5963 0.1512 0.7373 1.8425	1.6904 0.6006 0.1307 0.7121 1.8028	1.6995 0.6043 0.1041 0.6927 1.7723	1.7064 0.6070 0.0725 0.6790 1.7508	1.7106 0.6088 0.0372 0.6709 1.7382	1.7121 0.6093 0.0000 0.6682 1.7340	
0.10	1.6605 0.5737 0.1711 0.8034 1.9498	1.6732 0.5791 0.1642 0.7679 1.8938	1.6850 0.5841 0.1504 0.7371 1.8448	1.6956 0.5887 0.1300 0.7118 1.8041	1.7044 0.5925 0.1035 0.6921 1.7724	1.7110 0.5954 0.0720 0.6782 1.7500	1.7151 0.5973 0.0369 0.6699 1.7366	1.7164 0.5978 0.0000 0.6672 1.7321	
0.15	1.6658 0.5615 0.1698 0.8027 1.9504	1.6783 0.5672 0.1628 0.7672 1.8941	1.6900 0.5725 0.1490 0.7363 1.8446	1.7004 0.5773 0.1287 0.7108 1.8033	1.7090 0.5814 0.1024 0.6909 1.7709	1.7154 0.5844 0.0712 0.6768 1.7477	1.7194 0.5864 0.0365 0.6684 1.7338	1.7207 0.5870 0.0000 0.6656 1.7291	
0.20	1.6708 0.5498 0.1684 0.8013 1.9491	1.6832 0.5558 0.1613 0.7658 1.8927	1.6947 0.5614 0.1475 0.7348 1.8429	1.7049 0.5665 0.1272 0.7092 1.8010	1.7134 0.5707 0.1011 0.6891 1.7680	1.7197 0.5740 0.0703 0.6749 1.7443	1.7236 0.5760 0.0360 0.6663 1.7300	1.7249 0.5767 0.0000 0.6635 1.7252	
0.25	1.6756 0.5387 0.1668 0.7993 1.9464	1.6879 0.5449 0.1597 0.7638 1.8900	1.6993 0.5508 0.1459 0.7328 1.8399	1.7094 0.5551 0.1257 0.7070 1.7976	1.7177 0.5606 0.0998 0.6868 1.7641	1.7239 0.5639 0.0693 0.6724 1.7399	1.7278 0.5661 0.0355 0.6638 1.7253	1.7291 0.5668 0.0000 0.6609 1.7205	
0.30	1.6803 0.5279 0.1653 0.7966 1.9425	1.6924 0.5345 0.1580 0.7612 1.8861	1.7037 0.5406 0.1442 0.7302 1.8357	1.7137 0.5461 0.1242 0.7043 1.7931	1.7219 0.5508 0.0986 0.6841 1.7592	1.7281 0.5543 0.0684 0.6695 1.7347	1.7319 0.5565 0.0351 0.6608 1.7199	1.7332 0.5572 0.0000 0.6579 1.7149	
0.35	1.6849 0.5176 0.1638 0.7934 1.9376	1.6969 0.5244 0.1564 0.7581 1.8811	1.7081 0.5308 0.1426 0.7271 1.8306	1.7180 0.5365 0.1227 0.7012 1.7877	1.7261 0.5414 0.0973 0.6809 1.7535	1.7322 0.5450 0.0675 0.6662 1.7286	1.7360 0.5473 0.0346 0.6575 1.7136	1.7372 0.5480 0.0000 0.6546 1.7086	
0.40	1.6894 0.5076 0.1623 0.7897 1.9316	1.7013 0.5147 0.1549 0.7546 1.8752	1.7124 0.5213 0.1411 0.7236 1.8246	1.7222 0.5272 0.1213 0.6977 1.7815	1.7303 0.5322 0.0962 0.6773 1.7470	1.7363 0.5359 0.0667 0.6626 1.7219	1.7400 0.5383 0.0341 0.6537 1.7067	1.7413 0.5391 0.0000 0.6508 1.7016	
0.45	1.6939 0.4979 0.1608 0.7856 1.9248	1.7057 0.5053 0.1534 0.7506 1.8685	1.7167 0.5121 0.1396 0.7197 1.8178	1.7264 0.5182 0.1199 0.6938 1.7745	1.7344 0.5233 0.0950 0.6733 1.7397	1.7404 0.5271 0.0658 0.6585 1.7144	1.7441 0.5296 0.0337 0.6496 1.6990	1.7454 0.5304 0.0000 0.6467 1.6939	
0.50	1.6983 0.4885 0.1595 0.7810 1.9171	1.7100 0.4961 0.1519 0.7461 1.8609	1.7209 0.5031 0.1382 0.7154 1.8102	1.7306 0.5094 0.1186 0.6894 1.7657	1.7386 0.5146 0.0939 0.6689 1.7318	1.7445 0.5185 0.0651 0.6541 1.7052	1.7482 0.5210 0.0333 0.6452 1.6907	1.7494 0.5218 0.0000 0.6422 1.6855	

$$M_{\infty} = 3, \beta_K = 20^\circ, \alpha = 5^\circ$$

δ	θ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.55	1.7027 0.4793 0.1582 0.7760 1.9086	1.7143 0.4871 0.1505 0.7413 1.8526	1.7252 0.4943 0.1368 0.7106 1.8018	1.7348 0.5008 0.1174 0.6847 1.7582	1.7427 0.5061 0.0929 0.6642 1.7231	1.7487 0.5101 0.0643 0.6493 1.6974	1.7523 0.5126 0.0329 0.6404 1.6817	1.7535 0.5135 0.0000 0.6374 1.6765	
0.60	1.7071 0.4703 0.1569 0.7706 1.8994	1.7187 0.4783 0.1492 0.7361 1.8435	1.7295 0.4857 0.1355 0.7055 1.7927	1.7390 0.4923 0.1162 0.6796 1.7490	1.7469 0.4977 0.0919 0.6591 1.7137	1.7528 0.5018 0.0636 0.6442 1.6878	1.7565 0.5043 0.0325 0.6352 1.6721	1.7577 0.5052 0.0000 0.6322 1.6668	
0.65	1.7116 0.4614 0.1557 0.7648 1.8894	1.7230 0.4696 0.1480 0.7305 1.8336	1.7338 0.4772 0.1343 0.7000 1.7829	1.7433 0.4839 0.1151 0.6742 1.7391	1.7512 0.4894 0.0909 0.6536 1.7036	1.7571 0.4935 0.0629 0.6387 1.6776	1.7607 0.4961 0.0322 0.6297 1.6617	1.7619 0.4969 0.0000 0.6267 1.6564	
0.70	1.7160 0.4527 0.1546 0.7585 1.8785	1.7275 0.4610 0.1468 0.7244 1.8229	1.7381 0.4688 0.1331 0.6941 1.7723	1.7476 0.4756 0.1140 0.6683 1.7284	1.7555 0.4812 0.0900 0.6478 1.6928	1.7614 0.4853 0.0623 0.6328 1.6665	1.7650 0.4879 0.0319 0.6238 1.6505	1.7663 0.4887 0.0000 0.6208 1.6452	
0.75	1.7206 0.4439 0.1535 0.7518 1.8669	1.7319 0.4525 0.1457 0.7180 1.8115	1.7426 0.4604 0.1320 0.6878 1.7608	1.7520 0.4672 0.1130 0.6621 1.7169	1.7599 0.4729 0.0892 0.6415 1.6811	1.7658 0.4770 0.0617 0.6265 1.6547	1.7695 0.4796 0.0315 0.6175 1.6386	1.7707 0.4805 0.0000 0.6145 1.6332	
0.80	1.7252 0.4352 0.1525 0.7447 1.8544	1.7365 0.4440 0.1446 0.7111 1.7992	1.7471 0.4519 0.1310 0.6810 1.7485	1.7566 0.4589 0.1120 0.6553 1.7045	1.7645 0.4645 0.0884 0.6348 1.6686	1.7704 0.4686 0.0611 0.6198 1.6419	1.7741 0.4712 0.0312 0.6107 1.6257	1.7753 0.4721 0.0000 0.6077 1.6202	
0.85	1.7299 0.4265 0.1516 0.7371 1.8410	1.7412 0.4354 0.1436 0.7037 1.7859	1.7518 0.4434 0.1300 0.6737 1.7353	1.7613 0.4504 0.1111 0.6481 1.6911	1.7692 0.4560 0.0876 0.6276 1.6550	1.7752 0.4601 0.0605 0.6125 1.6282	1.7789 0.4627 0.0309 0.6034 1.6118	1.7801 0.4636 0.0000 0.6003 1.6062	
0.90	1.7348 0.4177 0.1507 0.7289 1.8265	1.7460 0.4266 0.1426 0.6957 1.7716	1.7567 0.4347 0.1290 0.6659 1.7209	1.7662 0.4417 0.1102 0.6403 1.6766	1.7741 0.4473 0.0869 0.6197 1.6402	1.7802 0.4514 0.0600 0.6046 1.6131	1.7839 0.4539 0.0307 0.5954 1.5966	1.7852 0.4547 0.0000 0.5924 1.5910	
0.95	1.7398 0.4087 0.1498 0.7201 1.8109	1.7511 0.4177 0.1418 0.6871 1.7560	1.7618 0.4258 0.1281 0.6574 1.7053	1.7713 0.4328 0.1094 0.6318 1.6607	1.7794 0.4383 0.0862 0.6112 1.6241	1.7855 0.4422 0.0595 0.5959 1.5966	1.7893 0.4447 0.0304 0.5867 1.5798	1.7906 0.4455 0.0000 0.5836 1.5741	
1.00	1.7451 0.3994 0.1491 0.7106 1.7939	1.7564 0.4085 0.1409 0.6778 1.7390	1.7672 0.4165 0.1273 0.6481 1.6881	1.7769 0.4234 0.1086 0.6225 1.6432	1.7850 0.4288 0.0855 0.6017 1.6061	1.7913 0.4325 0.0590 0.5863 1.5782	1.7952 0.4349 0.0302 0.5770 1.5610	1.7965 0.4356 0.0000 0.5738 1.5553	
F_x	0.5775	0.5833	0.5890	0.5941	0.5985	0.6020	0.6041	0.6048	

$$M_{\infty} = 3, \beta_{\kappa} = 20^{\circ}, \alpha = 10^{\circ}$$

ξ	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.00	1.4872 0.5413 0.0000 1.3423 2.6884	1.4893 0.5421 0.0578 1.3285 2.6685	1.4948 0.5441 0.1100 1.2924 2.6166	1.5034 0.5472 0.1634 1.2361 2.5347	1.5155 0.5516 0.2128 1.1617 2.4247	1.5305 0.5571 0.2567 1.0762 2.2959	1.5482 0.5635 0.2939 0.9850 2.1552	1.5679 0.5707 0.3233 0.8935 2.0101	1.5893 0.5785 0.3428 0.8069 1.8690
0.05	1.4934 0.5247 0.0000 1.3416 2.6873	1.4955 0.5257 0.0580 1.3279 2.6690	1.5019 0.5283 0.1106 1.2924 2.6203	1.5117 0.5320 0.1640 1.2369 2.5435	1.5255 0.5374 0.2131 1.1634 2.4403	1.5426 0.5442 0.2565 1.0790 2.3192	1.5627 0.5522 0.2928 0.9888 2.1866	1.5853 0.5611 0.3212 0.8981 2.0497	1.6097 0.5708 0.3395 0.8121 1.9162
0.10	1.4993 0.5088 0.0000 1.3396 2.6843	1.5015 0.5101 0.0577 1.3262 2.6666	1.5080 0.5129 0.1112 1.2911 2.6195	1.5181 0.5169 0.1644 1.2364 2.5451	1.5322 0.5230 0.2130 1.1640 2.4449	1.5496 0.5304 0.2560 1.0806 2.3270	1.5700 0.5392 0.2918 0.9915 2.1979	1.5929 0.5490 0.3194 0.9017 2.0639	1.6176 0.5695 0.3371 0.8163 1.9329
0.15	1.5052 0.4936 0.0000 1.3364 2.6800	1.5073 0.4950 0.0573 1.3233 2.6622	1.5138 0.4981 0.1116 1.2888 2.6167	1.5241 0.5024 0.1644 1.2348 2.5444	1.5383 0.5090 0.2126 1.1634 2.4468	1.5558 0.5172 0.2552 1.0812 2.3317	1.5763 0.5267 0.2904 0.9931 2.2053	1.5993 0.5372 0.3174 0.9042 2.0739	1.6239 0.5485 0.3344 0.8195 1.9447
0.20	1.5111 0.4791 0.0000 1.3322 2.6742	1.5130 0.4805 0.0570 1.3194 2.6566	1.5194 0.4838 0.1119 1.2854 2.6122	1.5299 0.4886 0.1643 1.2322 2.5419	1.5442 0.4957 0.2121 1.1618 2.4467	1.5617 0.5044 0.2542 1.0808 2.3342	1.5822 0.5146 0.2890 0.9938 2.2102	1.6050 0.5259 0.3154 0.9059 2.0809	1.6295 0.5380 0.3316 0.8218 1.9534
0.25	1.5169 0.4651 0.0000 1.3270 2.6671	1.5187 0.4666 0.0568 1.3145 2.6498	1.5249 0.4700 0.1120 1.2811 2.6063	1.5355 0.4752 0.1642 1.2287 2.5378	1.5498 0.4829 0.2116 1.1594 2.4448	1.5672 0.4922 0.2533 1.0795 2.3347	1.5876 0.5031 0.2875 0.9937 2.2130	1.6103 0.5151 0.3132 0.9067 2.0858	1.6346 0.5279 0.3288 0.8233 1.9597
0.30	1.5225 0.4515 0.0000 1.3210 2.6585	1.5243 0.4531 0.0566 1.3088 2.6418	1.5304 0.4568 0.1120 1.2760 2.5992	1.5410 0.4624 0.1640 1.2243 2.5323	1.5552 0.4705 0.2111 1.1561 2.4413	1.5726 0.4804 0.2523 1.0774 2.3336	1.5928 0.4920 0.2860 0.9927 2.2142	1.6153 0.5047 0.3111 0.9067 2.0888	1.6394 0.5182 0.3260 0.8241 1.9640
0.35	1.5279 0.4384 0.0000 1.3142 2.6486	1.5298 0.4400 0.0564 1.3023 2.6326	1.5359 0.4439 0.1120 1.2701 2.5911	1.5463 0.4499 0.1638 1.2192 2.5256	1.5604 0.4585 0.2106 1.1521 2.4365	1.5777 0.4691 0.2515 1.0746 2.3310	1.5978 0.4813 0.2846 0.9911 2.2138	1.6201 0.4947 0.3091 0.9061 2.0902	1.6440 0.5089 0.3234 0.8243 1.9668
0.40	1.5333 0.4256 0.0000 1.3067 2.6376	1.5353 0.4273 0.0563 1.2950 2.6222	1.5413 0.4315 0.1121 1.2634 2.5819	1.5516 0.4379 0.1636 1.2134 2.5177	1.5656 0.4470 0.2102 1.1474 2.4305	1.5828 0.4581 0.2506 1.0711 2.3272	1.6027 0.4710 0.2833 0.9888 2.2120	1.6248 0.4851 0.3072 0.9048 2.0903	1.6484 0.5000 0.3208 0.8238 1.9682
0.45	1.5387 0.4132 0.0000 1.2985 2.6256	1.5407 0.4149 0.0561 1.2871 2.6108	1.5467 0.4194 0.1121 1.2561 2.5717	1.5568 0.4262 0.1634 1.2070 2.5088	1.5706 0.4357 0.2098 1.1421 2.4234	1.5877 0.4475 0.2498 1.0669 2.3222	1.6074 0.4611 0.2820 0.9858 2.2091	1.6293 0.4759 0.3053 0.9030 2.0891	1.6526 0.4914 0.3183 0.8228 1.9683
0.50	1.5440 0.4011 0.0000 1.2896 2.6126	1.5461 0.4029 0.0561 1.2785 2.5985	1.5521 0.4075 0.1121 1.2482 2.5605	1.5620 0.4148 0.1633 1.1999 2.4989	1.5757 0.4248 0.2094 1.1361 2.4153	1.5925 0.4372 0.2491 1.0622 2.3161	1.6120 0.4514 0.2808 0.9824 2.2051	1.6336 0.4669 0.3035 0.9006 2.0868	1.6567 0.4831 0.3159 0.8212 1.9672

$$M_{\infty} = 3, \beta_{\kappa} = 20^{\circ}, \alpha = 10^{\circ}$$

ξ	θ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.55	1.5493 0.3892 0.0000 1.2801 2.5985	1.5515 0.3910 0.0561 1.2693 2.5853	1.5574 0.3960 0.1122 1.2397 2.5485	1.5672 0.4036 0.1631 1.1922 2.4880	1.5806 0.4142 0.2091 1.1296 2.4062	1.5973 0.4271 0.2485 1.0569 2.3090	1.6165 0.4420 0.2797 0.9783 2.2000	1.6379 0.4582 0.3019 0.8977 2.0835	1.6607 0.4751 0.3136 0.8191 1.9652
0.60	1.5546 0.3776 0.0000 1.2700 2.5837	1.5569 0.3794 0.0562 1.2595 2.5712	1.5627 0.3846 0.1121 1.2306 2.5354	1.5723 0.3927 0.1630 1.1839 2.4761	1.5856 0.4037 0.2088 1.1225 2.3962	1.6020 0.4173 0.2479 1.0511 2.3010	1.6210 0.4329 0.2787 0.9738 2.1940	1.6422 0.4497 0.3003 0.8943 2.0792	1.6647 0.4673 0.3115 0.8166 1.9621
0.65	1.5599 0.3661 0.0000 1.2594 2.5683	1.5622 0.3680 0.0563 1.2491 2.5560	1.5680 0.3735 0.1121 1.2208 2.5214	1.5774 0.3820 0.1629 1.1751 2.4635	1.5906 0.3935 0.2085 1.1148 2.3853	1.6067 0.4077 0.2474 1.0448 2.2921	1.6255 0.4239 0.2777 0.9588 2.1870	1.6463 0.4415 0.2988 0.8904 2.0739	1.6686 0.4596 0.3094 0.8136 1.9582
0.70	1.5653 0.3549 0.0000 1.2483 2.5521	1.5676 0.3568 0.0564 1.2381 2.5400	1.5733 0.3625 0.1122 1.2104 2.5063	1.5826 0.3714 0.1628 1.1658 2.4499	1.5955 0.3834 0.2083 1.1067 2.3735	1.6114 0.3982 0.2469 1.0380 2.2823	1.6299 0.4152 0.2768 0.9633 2.1792	1.6505 0.4334 0.2974 0.8860 2.0678	1.6725 0.4522 0.3075 0.8102 1.9533
0.75	1.5707 0.3437 0.0000 1.2366 2.5350	1.5730 0.3456 0.0565 1.2266 2.5231	1.5786 0.3516 0.1123 1.1995 2.4903	1.5877 0.3610 0.1628 1.1559 2.4354	1.6005 0.3735 0.2082 1.0980 2.3609	1.6162 0.3889 0.2465 1.0306 2.2716	1.6343 0.4065 0.2760 0.9573 2.1705	1.6546 0.4254 0.2962 0.8812 2.0608	1.6764 0.4448 0.3057 0.8064 1.9476
0.80	1.5763 0.3326 0.0000 1.2242 2.5170	1.5785 0.3346 0.0567 1.2145 2.5053	1.5839 0.3408 0.1124 1.1881 2.4735	1.5929 0.3506 0.1629 1.1454 2.4200	1.6055 0.3637 0.2081 1.0887 2.3473	1.6209 0.3797 0.2462 1.0228 2.2600	1.6387 0.3980 0.2753 0.9508 2.1609	1.6588 0.4175 0.2950 0.8760 2.0529	1.6804 0.4375 0.3040 0.8021 1.9410
0.85	1.5819 0.3215 0.0000 1.2112 2.4979	1.5840 0.3236 0.0568 1.2018 2.4866	1.5893 0.3301 0.1125 1.1761 2.4557	1.5982 0.3403 0.1629 1.1343 2.4037	1.6105 0.3539 0.2081 1.0790 2.3328	1.6256 0.3706 0.2459 1.0144 2.2476	1.6432 0.3895 0.2746 0.9439 2.1504	1.6630 0.4097 0.2939 0.8702 2.0441	1.6843 0.4303 0.3025 0.7973 1.9336
0.90	1.5876 0.3105 0.0000 1.1976 2.4779	1.5896 0.3126 0.0569 1.1884 2.4670	1.5948 0.3193 0.1127 1.1633 2.4368	1.6035 0.3300 0.1630 1.1226 2.3863	1.6156 0.3441 0.2081 1.0686 2.3174	1.6305 0.3615 0.2457 1.0055 2.2341	1.6477 0.3811 0.2741 0.9364 2.1389	1.6673 0.4019 0.2929 0.8640 2.0344	1.6883 0.4232 0.3010 0.7921 1.9253
0.95	1.5933 0.2994 0.0000 1.1834 2.4569	1.5954 0.3016 0.0571 1.1744 2.4462	1.6004 0.3085 0.1128 1.1499 2.4167	1.6090 0.3197 0.1632 1.1103 2.3678	1.6208 0.3344 0.2082 1.0577 2.3010	1.6354 0.3523 0.2455 0.9960 2.2197	1.6524 0.3727 0.2737 0.9284 2.1265	1.6716 0.3941 0.2920 0.8573 2.0238	1.6924 0.4160 0.2996 0.7864 1.9160
1.00	1.5992 0.2883 0.0000 1.1685 2.4348	1.6012 0.2904 0.0572 1.1596 2.4242	1.6062 0.2976 0.1130 1.1356 2.3954	1.6146 0.3092 0.1634 1.0972 2.3482	1.6262 0.3245 0.2083 1.0461 2.2834	1.6404 0.3431 0.2455 0.9859 2.2042	1.6571 0.3641 0.2733 0.9197 2.1130	1.6760 0.3863 0.2912 0.8499 2.0121	1.6965 0.4087 0.2984 0.7802 1.9058
F_x	0.5322	0.5327	0.5352	0.5391	0.5444	0.5515	0.5601	0.5700	0.5813

$$M_{\infty} = 3, \beta_{\kappa} = 20^{\circ}, \alpha = 10^{\circ}$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.00	1.6115	1.6339	1.6553	1.6748	1.6913	1.7037	1.7113	1.7566	1.7138
	0.5866	0.5947	0.6025	0.6096	0.6156	0.6201	0.6229	0.6394	0.6238
	0.3508	0.3449	0.3232	0.2842	0.2288	0.1596	0.0821	0.0000	0.0000
	0.7292	0.6636	0.6119	0.5745	0.5497	0.5351	0.5278	0.5255	0.5255
0.05	1.7385	1.6253	1.5339	1.4662	1.4209	1.3938	1.3801	1.4683	1.3760
	1.6354	1.6613	1.6865	1.7099	1.7302	1.7461	1.7560	1.7595	
	0.5809	0.5912	0.6013	0.6109	0.6194	0.6261	0.6304	0.6317	
	0.3463	0.3395	0.3175	0.2792	0.2255	0.1584	0.0820	0.0000	
0.10	0.7346	0.6688	0.6165	0.5779	0.5520	0.5362	0.5279	0.5254	
	1.7929	1.6862	1.6008	1.5391	1.5000	1.4792	1.4703	1.4680	
	1.6433	1.6691	1.6940	1.7167	1.7359	1.7504	1.7592	1.7622	
	0.5705	0.5816	0.5924	0.6026	0.6115	0.6186	0.6231	0.6246	
0.15	0.3433	0.3361	0.3141	0.2762	0.2232	0.1569	0.0811	0.0000	
	0.7390	0.6731	0.6202	0.5807	0.5536	0.5367	0.5277	0.5248	
	1.8111	1.7046	1.6181	1.5537	1.5105	1.4845	1.4711	1.4669	
	1.6495	1.6751	1.6996	1.7217	1.7401	1.7538	1.7622	1.7650	
0.20	0.5602	0.5720	0.5835	0.5942	0.6037	0.6112	0.6161	0.6177	
	0.3400	0.3323	0.3101	0.2724	0.2198	0.1543	0.0796	0.0000	
	0.7425	0.6765	0.6231	0.5828	0.5547	0.5368	0.5271	0.5239	
	1.8238	1.7173	1.6294	1.5625	1.5159	1.4863	1.4703	1.4651	
0.25	1.6549	1.6802	1.7043	1.7259	1.7437	1.7570	1.7650	1.7677	
	0.5504	0.5628	0.5749	0.5862	0.5962	0.6041	0.6094	0.6111	
	0.3365	0.3284	0.3059	0.2683	0.2162	0.1515	0.0781	0.0000	
	0.7452	0.6791	0.6252	0.5842	0.5552	0.5364	0.5261	0.5228	
0.30	1.8333	1.7265	1.6374	1.5682	1.5188	1.4866	1.4687	1.4628	
	1.6598	1.6848	1.7085	1.7297	1.7471	1.7601	1.7679	1.7705	
	0.5410	0.5540	0.5667	0.5785	0.5889	0.5973	0.6028	0.6046	
	0.3330	0.3244	0.3017	0.2642	0.2125	0.1488	0.0766	0.0000	
0.35	0.7471	0.6810	0.6268	0.5851	0.5552	0.5357	0.5248	0.5213	
	1.8403	1.7333	1.6430	1.5719	1.5201	1.4857	1.4663	1.4599	
	1.6643	1.6890	1.7124	1.7332	1.7504	1.7631	1.7708	1.7734	
	0.5320	0.5456	0.5588	0.5711	0.5819	0.5906	0.5963	0.5983	
0.40	0.3296	0.3205	0.2975	0.2601	0.2089	0.1461	0.0752	0.0000	
	0.7483	0.6822	0.6277	0.5854	0.5548	0.5346	0.5233	0.5196	
	1.8453	1.7381	1.6468	1.5740	1.5202	1.4839	1.4632	1.4564	
	1.6686	1.6930	1.7161	1.7367	1.7536	1.7661	1.7737	1.7762	
0.45	0.5234	0.5376	0.5513	0.5639	0.5752	0.5841	0.5900	0.5920	
	0.3263	0.3166	0.2934	0.2561	0.2055	0.1435	0.0738	0.0000	
	0.7489	0.6829	0.6281	0.5853	0.5540	0.5332	0.5214	0.5176	
	1.8487	1.7414	1.6492	1.5749	1.5193	1.4814	1.4596	1.4524	
0.50	1.6727	1.6969	1.7197	1.7400	1.7568	1.7691	1.7766	1.7792	
	0.5151	0.5299	0.5440	0.5571	0.5686	0.5778	0.5838	0.5858	
	0.3231	0.3129	0.2895	0.2523	0.2021	0.1411	0.0725	0.0000	
	0.7489	0.6830	0.6280	0.5847	0.5528	0.5314	0.5193	0.5153	
0.55	1.8507	1.7433	1.6503	1.5746	1.5174	1.4781	1.4553	1.4478	
	1.6767	1.7006	1.7232	1.7433	1.7599	1.7722	1.7796	1.7822	
	0.5071	0.5225	0.5370	0.5504	0.5622	0.5715	0.5776	0.5797	
	0.3200	0.3094	0.2857	0.2486	0.1990	0.1388	0.0713	0.0000	
0.60	0.7484	0.6826	0.6274	0.5837	0.5513	0.5294	0.5168	0.5127	
	1.8515	1.7441	1.6503	1.5734	1.5148	1.4741	1.4505	1.4426	
	1.6805	1.7042	1.7266	1.7466	1.7631	1.7753	1.7827	1.7852	
	0.4994	0.5153	0.5303	0.5439	0.5559	0.5653	0.5715	0.5736	
0.65	0.3170	0.3060	0.2821	0.2452	0.1960	0.1367	0.0702	0.0000	
	0.7473	0.6818	0.6265	0.5823	0.5494	0.5270	0.5141	0.5099	
	1.8512	1.7437	1.6494	1.5713	1.5114	1.4695	1.4450	1.4369	

$$M_{\infty} = 3, \beta_{\kappa} = 20^{\circ}, \alpha = 10^{\circ}$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.55	1.6843	1.7077	1.7300	1.7498	1.7663	1.7785	1.7859	1.7884	
	0.4920	0.5083	0.5237	0.5376	0.5497	0.5592	0.5654	0.5675	
	0.3142	0.3027	0.2786	0.2418	0.1932	0.1346	0.0691	0.0000	
	0.7458	0.6805	0.6251	0.5805	0.5472	0.5243	0.5111	0.5067	
	1.8498	1.7424	1.6475	1.5684	1.5072	1.4642	1.4390	1.4306	
0.60	1.6880	1.7113	1.7333	1.7531	1.7695	1.7817	1.7892	1.7917	
	0.4847	0.5015	0.5172	0.5314	0.5435	0.5531	0.5593	0.5614	
	0.3115	0.2996	0.2754	0.2387	0.1905	0.1326	0.0681	0.0000	
	0.7439	0.6788	0.6233	0.5781	0.5446	0.5213	0.5078	0.5033	
	1.8475	1.7402	1.6448	1.5647	1.5024	1.4583	1.4323	1.4237	
0.65	1.6917	1.7148	1.7367	1.7564	1.7728	1.7851	1.7925	1.7951	
	0.4777	0.4949	0.5109	0.5252	0.5374	0.5470	0.5531	0.5552	
	0.3090	0.2967	0.2722	0.2357	0.1879	0.1308	0.0671	0.0000	
	0.7415	0.6767	0.6211	0.5760	0.5417	0.5179	0.5041	0.4995	
	1.8442	1.7371	1.6412	1.5603	1.4968	1.4517	1.4250	1.4161	
0.70	1.6954	1.7182	1.7401	1.7598	1.7762	1.7885	1.7961	1.7987	
	0.4707	0.4884	0.5047	0.5191	0.5313	0.5407	0.5468	0.5489	
	0.3065	0.2939	0.2692	0.2328	0.1855	0.1290	0.0662	0.0000	
	0.7387	0.6742	0.6186	0.5731	0.5384	0.5142	0.5001	0.4954	
	1.8402	1.7332	1.6369	1.5551	1.4905	1.4443	1.4169	1.4077	
0.75	1.6991	1.7217	1.7435	1.7632	1.7797	1.7922	1.7998	1.8024	
	0.4639	0.4820	0.4985	0.5130	0.5251	0.5341	0.5404	0.5424	
	0.3042	0.2912	0.2664	0.2301	0.1832	0.1274	0.0653	0.0000	
	0.7355	0.6713	0.6157	0.5699	0.5348	0.5101	0.4957	0.4909	
	1.8353	1.7285	1.6319	1.5491	1.4834	1.4361	1.4080	1.3985	
0.80	1.7028	1.7253	1.7470	1.7667	1.7834	1.7960	1.8038	1.8064	
	0.4572	0.4756	0.4923	0.5068	0.5188	0.5279	0.5337	0.5357	
	0.3021	0.2886	0.2637	0.2275	0.1809	0.1258	0.0645	0.0000	
	0.7319	0.6680	0.6124	0.5663	0.5307	0.5056	0.4908	0.4859	
	1.8295	1.7230	1.6260	1.5424	1.4754	1.4271	1.3981	1.3884	
0.85	1.7065	1.7289	1.7505	1.7704	1.7872	1.8000	1.8080	1.8107	
	0.4505	0.4693	0.4861	0.5006	0.5123	0.5212	0.5267	0.5286	
	0.3000	0.2862	0.2611	0.2250	0.1788	0.1243	0.0637	0.0000	
	0.7279	0.6643	0.6087	0.5623	0.5262	0.5005	0.4854	0.4803	
	1.8230	1.7167	1.6193	1.5347	1.4665	1.4169	1.3870	1.3770	
0.90	1.7103	1.7326	1.7542	1.7742	1.7913	1.8044	1.8126	1.8154	
	0.4438	0.4629	0.4799	0.4942	0.5056	0.5141	0.5193	0.5210	
	0.2981	0.2839	0.2587	0.2226	0.1768	0.1228	0.0629	0.0000	
	0.7234	0.6602	0.6045	0.5578	0.5211	0.4949	0.4793	0.4741	
	1.8155	1.7095	1.6117	1.5261	1.4565	1.4054	1.3745	1.3641	
0.95	1.7142	1.7363	1.7580	1.7782	1.7957	1.8093	1.8178	1.8208	
	0.4371	0.4565	0.4735	0.4875	0.4985	0.5064	0.5112	0.5127	
	0.2963	0.2818	0.2563	0.2203	0.1748	0.1214	0.0622	0.0000	
	0.7184	0.6556	0.5999	0.5527	0.5153	0.4884	0.4722	0.4668	
	1.8072	1.7015	1.6031	1.5164	1.4451	1.3923	1.3600	1.3491	
1.00	1.7182	1.7403	1.7621	1.7826	1.8006	1.8148	1.8238	1.8270	
	0.4303	0.4499	0.4669	0.4806	0.4909	0.4979	0.5019	0.5032	
	0.2946	0.2797	0.2541	0.2182	0.1730	0.1200	0.0615	0.0000	
	0.7130	0.6505	0.5947	0.5470	0.5087	0.4808	0.4638	0.4580	
	1.7978	1.6923	1.5934	1.5053	1.4319	1.3768	1.3427	1.3310	
F_z	0.5938	0.6069	0.6202	0.6328	0.6441	0.6530	0.6588	0.6608	

$$M_{\infty} = 3, \beta_{\kappa} = 20^{\circ}, \alpha = 15^{\circ}$$

ξ	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.00	1.3882	1.3908	1.3984	1.4110	1.4282	1.4498	1.4753	1.5041	1.5356
	0.5053	0.5062	0.5090	0.5136	0.5198	0.5277	0.5370	0.5474	0.5589
	0.0000	0.0793	0.1572	0.2320	0.3024	0.3668	0.4237	0.4716	0.5084
	1.6287	1.6073	1.5452	1.4480	1.3242	1.1838	1.0371	0.8934	0.7606
	2.9863	2.9583	2.8762	2.7458	2.5760	2.3778	2.1633	1.9447	1.7335
0.05	1.3946	1.3974	1.4058	1.4197	1.4386	1.4624	1.4904	1.5220	1.5567
	0.4879	0.4891	0.4924	0.4980	0.5057	0.5154	0.5268	0.5398	0.5540
	0.0000	0.0795	0.1574	0.2319	0.3015	0.3646	0.4196	0.4649	0.4988
	1.6279	1.6069	1.5459	1.4503	1.3285	1.1903	1.0458	0.9040	0.7725
	2.9853	2.9589	2.8814	2.7582	2.5973	2.4090	2.2045	1.9952	1.7922
0.10	1.4008	1.4037	1.4124	1.4266	1.4461	1.4704	1.4990	1.5313	1.5665
	0.4713	0.4726	0.4764	0.4827	0.4914	0.5024	0.5153	0.5300	0.5459
	0.0000	0.0796	0.1575	0.2318	0.3009	0.3631	0.4169	0.4606	0.4926
	1.6256	1.6050	1.5450	1.4511	1.3314	1.1955	1.0531	0.9132	0.7832
	2.9823	2.9568	2.8821	2.7632	2.6077	2.4254	2.2271	2.0237	1.8256
0.15	1.4070	1.4099	1.4187	1.4331	1.4529	1.4774	1.5062	1.5387	1.5740
	0.4553	0.4568	0.4610	0.4680	0.4777	0.4898	0.5041	0.5203	0.5379
	0.0000	0.0797	0.1576	0.2317	0.3004	0.3618	0.4145	0.4568	0.4872
	1.6220	1.6017	1.5429	1.4507	1.3331	1.1994	1.0592	0.9212	0.7926
	2.9776	2.9529	2.8807	2.7655	2.6149	2.4380	2.2452	2.0468	1.8530
0.20	1.4130	1.4160	1.4248	1.4393	1.4592	1.4838	1.5126	1.5450	1.5802
	0.4400	0.4415	0.4462	0.4539	0.4645	0.4777	0.4934	0.5111	0.5301
	0.0000	0.0798	0.1577	0.2317	0.2999	0.3607	0.4124	0.4534	0.4822
	1.6172	1.5973	1.5396	1.4491	1.3335	1.2021	1.0641	0.9281	0.8009
	2.9713	2.9474	2.8774	2.7659	2.6197	2.4478	2.2599	2.0662	1.8762
0.25	1.4189	1.4219	1.4308	1.4453	1.4651	1.4897	1.5184	1.5506	1.5855
	0.4251	0.4268	0.4319	0.4402	0.4517	0.4661	0.4831	0.5022	0.5226
	0.0000	0.0799	0.1578	0.2317	0.2996	0.3598	0.4105	0.4503	0.4777
	1.6113	1.5918	1.5351	1.4464	1.3329	1.2038	1.0680	0.9339	0.8083
	2.9635	2.9404	2.8726	2.7644	2.6225	2.4552	2.2721	2.0827	1.8962
0.30	1.4248	1.4278	1.4366	1.4511	1.4708	1.4953	1.5238	1.5557	1.5903
	0.4108	0.4126	0.4181	0.4271	0.4395	0.4550	0.4732	0.4936	0.5155
	0.0000	0.0801	0.1580	0.2318	0.2994	0.3589	0.4088	0.4475	0.4735
	1.6044	1.5853	1.5298	1.4427	1.3314	1.2046	1.0710	0.9389	0.8147
	2.9544	2.9321	2.8664	2.7614	2.6235	2.4608	2.2821	2.0967	1.9134
0.35	1.4306	1.4336	1.4424	1.4568	1.4764	1.5006	1.5289	1.5604	1.5946
	0.3968	0.3988	0.4047	0.4143	0.4276	0.4442	0.4637	0.4855	0.5086
	0.0000	0.0803	0.1583	0.2320	0.2992	0.3582	0.4073	0.4448	0.4695
	1.5965	1.5778	1.5234	1.4381	1.3290	1.2045	1.0732	0.9430	0.8204
	2.9441	2.9225	2.8588	2.7570	2.6230	2.4646	2.2902	2.1087	1.9285
0.40	1.4363	1.4393	1.4480	1.4623	1.4817	1.5057	1.5337	1.5649	1.5985
	0.3833	0.3854	0.3916	0.4020	0.4162	0.4339	0.4546	0.4776	0.5021
	0.0000	0.0804	0.1586	0.2322	0.2992	0.3577	0.4059	0.4424	0.4658
	1.5878	1.5695	1.5163	1.4327	1.3257	1.2036	1.0746	0.9464	0.8252
	2.9327	2.9117	2.8500	2.7512	2.6211	2.4669	2.2967	2.1188	1.9415
0.45	1.4421	1.4450	1.4536	1.4678	1.4870	1.5107	1.5383	1.5690	1.6022
	0.3700	0.3723	0.3790	0.3900	0.4051	0.4239	0.4458	0.4701	0.4959
	0.0000	0.0807	0.1589	0.2325	0.2993	0.3573	0.4047	0.4402	0.4623
	1.5783	1.5604	1.5084	1.4265	1.3218	1.2019	1.0752	0.9490	0.8294
	2.9201	2.8998	2.8400	2.7443	2.6179	2.4677	2.3016	2.1273	1.9528
0.50	1.4477	1.4506	1.4592	1.4732	1.4921	1.5155	1.5427	1.5730	1.6057
	0.3571	0.3595	0.3666	0.3783	0.3943	0.4141	0.4373	0.4629	0.4899
	0.0000	0.0809	0.1593	0.2329	0.2994	0.3570	0.4037	0.4381	0.4591
	1.5681	1.5506	1.4997	1.4196	1.3171	1.1996	1.0752	0.9510	0.8330
	2.9065	2.8869	2.8290	2.7362	2.6135	2.4673	2.3051	2.1344	1.9626

$$M_{\infty} = 3, \beta_{\kappa} = 20^{\circ}, \alpha = 15^{\circ}$$

ξ	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.55	1.4534	1.4563	1.4647	1.4785	1.4972	1.5202	1.5470	1.5768	1.6090
	0.3445	0.3470	0.3545	0.3669	0.3838	0.4047	0.4290	0.4559	0.4841
	0.0000	0.0811	0.1597	0.2334	0.2997	0.3568	0.4027	0.4362	0.4560
	1.5571	1.5400	1.4903	1.4120	1.3117	1.1966	1.0745	0.9523	0.8359
	2.8920	2.8730	2.8170	2.7271	2.6080	2.4657	2.3074	2.1401	1.9709
0.60	1.4591	1.4619	1.4702	1.4838	1.5022	1.5248	1.5512	1.5805	1.6121
	0.3320	0.3347	0.3427	0.3557	0.3735	0.3955	0.4211	0.4491	0.4785
	0.0000	0.0814	0.1602	0.2339	0.3000	0.3567	0.4019	0.4345	0.4532
	1.5154	1.5287	1.4802	1.4038	1.3057	1.1930	1.0732	0.9531	0.8383
	2.8764	2.8581	2.8040	2.7169	2.6013	2.4630	2.3084	2.1445	1.9780
0.65	1.4648	1.4675	1.4757	1.4890	1.5071	1.5294	1.5552	1.5840	1.6151
	0.3198	0.3226	0.3310	0.3447	0.3634	0.3866	0.4133	0.4426	0.4732
	0.0000	0.0817	0.1607	0.2344	0.3004	0.3567	0.4013	0.4330	0.4505
	1.5330	1.5168	1.4694	1.3949	1.2990	1.1888	1.0714	0.9534	0.8402
	2.8599	2.8422	2.7900	2.7057	2.5937	2.4592	2.3084	2.1478	1.9839
0.70	1.4705	1.4732	1.4812	1.4943	1.5120	1.5338	1.5592	1.5875	1.6181
	0.3077	0.3107	0.3195	0.3339	0.3536	0.3778	0.4057	0.4362	0.4680
	0.0000	0.0820	0.1613	0.2351	0.3009	0.3568	0.4007	0.4315	0.4480
	1.5199	1.5041	1.4580	1.3853	1.2918	1.1840	1.0690	0.9531	0.8415
	2.8425	2.8254	2.7750	2.6936	2.5851	2.4544	2.3074	2.1501	1.9887
0.75	1.4762	1.4789	1.4867	1.4995	1.5169	1.5383	1.5632	1.5909	1.6209
	0.2958	0.2989	0.3082	0.3233	0.3439	0.3692	0.3983	0.4300	0.4629
	0.0000	0.0824	0.1619	0.2357	0.3015	0.3570	0.4003	0.4302	0.4457
	1.5062	1.4908	1.4459	1.3751	1.2839	1.1787	1.0661	0.9524	0.8425
	2.8241	2.8077	2.7591	2.6805	2.5755	2.4486	2.3053	2.1513	1.9925
0.80	1.4820	1.4846	1.4923	1.5048	1.5218	1.5427	1.5671	1.5942	1.6237
	0.2840	0.2872	0.2969	0.3128	0.3343	0.3607	0.3910	0.4239	0.4580
	0.0000	0.0827	0.1625	0.2365	0.3021	0.3572	0.4000	0.4291	0.4435
	1.4918	1.4768	1.4332	1.3643	1.2755	1.1728	1.0627	0.9511	0.8429
	2.8048	2.7890	2.7422	2.6665	2.5649	2.4418	2.3022	2.1515	1.9954
0.85	1.4878	1.4904	1.4979	1.5101	1.5267	1.5471	1.5709	1.5976	1.6265
	0.2722	0.2756	0.2858	0.3023	0.3248	0.3523	0.3838	0.4180	0.4532
	0.0000	0.0831	0.1631	0.2373	0.3028	0.3576	0.3998	0.4281	0.4415
	1.4767	1.4621	1.4198	1.3529	1.2664	1.1664	1.0588	0.9494	0.8429
	2.7845	2.7693	2.7243	2.6514	2.5534	2.4341	2.2982	2.1508	1.9973
0.90	1.4938	1.4962	1.5035	1.5154	1.5316	1.5516	1.5748	1.6008	1.6292
	0.2604	0.2640	0.2746	0.2919	0.3153	0.3440	0.3767	0.4121	0.4484
	0.0000	0.0835	0.1638	0.2381	0.3036	0.3581	0.3997	0.4272	0.4396
	1.4608	1.4467	1.4057	1.3408	1.2568	1.1593	1.0543	0.9472	0.8425
	2.7631	2.7485	2.7054	2.6353	2.5408	2.4254	2.2933	2.1492	1.9984
0.95	1.4998	1.5022	1.5093	1.5209	1.5366	1.5560	1.5787	1.6041	1.6319
	0.2487	0.2524	0.2635	0.2815	0.3059	0.3357	0.3697	0.4063	0.4438
	0.0000	0.0839	0.1646	0.2390	0.3045	0.3586	0.3997	0.4264	0.4379
	1.4442	1.4306	1.3909	1.3280	1.2465	1.1517	1.0493	0.9445	0.8417
	2.7406	2.7267	2.6854	2.6182	2.5272	2.4157	2.2873	2.1467	1.9986
1.00	1.5060	1.5083	1.5152	1.5264	1.5417	1.5605	1.5826	1.6074	1.6347
	0.2368	0.2407	0.2523	0.2711	0.2965	0.3275	0.3627	0.4005	0.4392
	0.0000	0.0843	0.1653	0.2400	0.3054	0.3592	0.3998	0.4257	0.4364
	1.4267	1.4136	1.3752	1.3145	1.2355	1.1435	1.0438	0.9413	0.8404
	2.7169	2.7037	2.6643	2.5999	2.5126	2.4049	2.2804	2.1433	1.9979
F_x	0.5248	0.5258	0.5290	0.5342	0.5418	0.5518	0.5643	0.5796	0.5975

$$M_{\infty} = 3, \beta_{\kappa} = 20^{\circ}, \alpha = 15^{\circ}$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.00	1.5689	1.6033	1.6371	1.6690	1.6962	1.7171	1.7300	1.7950	1.7335
	0.5710	0.5835	0.5959	0.6075	0.6174	0.6250	0.6297	0.6533	0.6309
	0.5321	0.5383	0.5211	0.4705	0.3835	0.2660	0.1275	0.0000	0.0000
	0.6445	0.5498	0.4803	0.4386	0.4215	0.4190	0.4215	0.4229	0.4229
0.05	1.5401	1.3748	1.2483	1.1699	1.1371	1.1324	1.1371	1.2592	1.1399
	1.5936	1.6319	1.6702	1.7068	1.7393	1.7663	1.7868	1.7949	
	0.5690	0.5844	0.5998	0.6150	0.6296	0.6427	0.6515	0.6537	
	0.5190	0.5219	0.5018	0.4509	0.3665	0.2551	0.1325	0.0000	
0.10	0.6572	0.5624	0.4920	0.4481	0.4280	0.4224	0.4224	0.4229	
	1.6054	1.4451	1.3223	1.2471	1.2189	1.2232	1.2450	1.2592	
	1.6040	1.6426	1.6811	1.7175	1.7491	1.7736	1.7893	1.7946	
	0.5627	0.5798	0.5967	0.6133	0.6295	0.6436	0.6523	0.6545	
0.15	0.5107	0.5118	0.4908	0.4406	0.3588	0.2522	0.1314	0.0000	
	0.6686	0.5739	0.5024	0.4566	0.4338	0.4253	0.4232	0.4229	
	1.6426	1.4845	1.3617	1.2839	1.2508	1.2475	1.2551	1.2593	
	1.6114	1.6499	1.6880	1.7238	1.7540	1.7765	1.7900	1.7945	
0.20	0.5563	0.5747	0.5927	0.6104	0.6277	0.6426	0.6520	0.6548	
	0.5036	0.5031	0.4811	0.4314	0.3516	0.2475	0.1285	0.0000	
	0.6789	0.5842	0.5119	0.4642	0.4388	0.4278	0.4239	0.4230	
	1.6730	1.5162	1.3925	1.3110	1.2717	1.2599	1.2590	1.2594	
0.25	1.6173	1.6555	1.6931	1.7280	1.7570	1.7781	1.7905	1.7946	
	0.5499	0.5696	0.5886	0.6071	0.6252	0.6409	0.6512	0.6544	
	0.4970	0.4951	0.4722	0.4228	0.3443	0.2422	0.1253	0.0000	
	0.6881	0.5934	0.5203	0.4709	0.4431	0.4300	0.4245	0.4229	
0.30	1.6988	1.5429	1.4179	1.3324	1.2867	1.2678	1.2611	1.2593	
	1.6223	1.6600	1.6970	1.7311	1.7592	1.7793	1.7911	1.7950	
	0.5437	0.5646	0.5846	0.6038	0.6227	0.6390	0.6500	0.6536	
	0.4909	0.4876	0.4638	0.4144	0.3371	0.2369	0.1223	0.0000	
0.35	0.6963	0.6018	0.5279	0.4769	0.4469	0.4317	0.4248	0.4228	
	1.7211	1.5658	1.4393	1.3499	1.2983	1.2733	1.2623	1.2589	
	1.6266	1.6637	1.7002	1.7337	1.7610	1.7805	1.7918	1.7956	
	0.5379	0.5598	0.5807	0.6007	0.6200	0.6369	0.6484	0.6523	
0.40	0.4852	0.4804	0.4557	0.4063	0.3301	0.2318	0.1195	0.0000	
	0.7036	0.6093	0.5348	0.4821	0.4502	0.4331	0.4249	0.4225	
	1.7404	1.5857	1.4577	1.3644	1.3076	1.2773	1.2628	1.2582	
	1.6304	1.6670	1.7029	1.7358	1.7626	1.7817	1.7927	1.7965	
0.45	0.5323	0.5553	0.5771	0.5976	0.6174	0.6347	0.6465	0.6506	
	0.4798	0.4737	0.4480	0.3986	0.3235	0.2269	0.1168	0.0000	
	0.7102	0.6160	0.5409	0.4868	0.4530	0.4341	0.4249	0.4220	
	1.7573	1.6030	1.4735	1.3768	1.3150	1.2803	1.2628	1.2572	
0.50	1.6339	1.6699	1.7053	1.7377	1.7641	1.7829	1.7938	1.7975	
	0.5270	0.5510	0.5735	0.5946	0.6147	0.6323	0.6444	0.6485	
	0.4747	0.4672	0.4407	0.3912	0.3171	0.2223	0.1144	0.0000	
	0.7160	0.6221	0.5464	0.4910	0.4553	0.4349	0.4245	0.4213	
0.55	1.7722	1.6182	1.4874	1.3873	1.3211	1.2823	1.2623	1.2558	
	1.6370	1.6726	1.7074	1.7394	1.7656	1.7842	1.7951	1.7987	
	0.5219	0.5469	0.5702	0.5917	0.6121	0.6298	0.6420	0.6462	
	0.4699	0.4611	0.4337	0.3842	0.3111	0.2180	0.1121	0.0000	
0.60	0.7211	0.6275	0.5513	0.4946	0.4573	0.4353	0.4240	0.4204	
	1.7852	1.6316	1.4995	1.3964	1.3261	1.2836	1.2612	1.2539	
	1.6400	1.6750	1.7094	1.7411	1.7671	1.7856	1.7965	1.8001	
	0.5170	0.5430	0.5670	0.5889	0.6094	0.6271	0.6393	0.6436	
0.65	0.4653	0.4553	0.4271	0.3775	0.3054	0.2139	0.1100	0.0000	
	0.7256	0.6323	0.5557	0.4978	0.4589	0.4354	0.4232	0.4193	
	1.7967	1.6434	1.5101	1.4041	1.3301	1.2841	1.2596	1.2516	

$$M_{\infty} = 3, \beta_{\kappa} = 20^{\circ}, \alpha = 15^{\circ}$$

ξ	θ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.55	1.6427 0.5124 0.4610 0.7296 1.8066	1.6773 0.5393 0.4498 0.6366 1.6538	1.7113 0.5639 0.4208 0.5596 1.5194	1.7427 0.5861 0.3712 0.5006 1.4108	1.7686 0.6067 0.2999 0.4601 1.3332	1.7872 0.6243 0.2101 0.4353 1.2840	1.7981 0.6365 0.1080 0.4222 1.2574	1.8018 0.6407 0.0000 0.4180 1.2488	
0.60	1.6453 0.5079 0.4569 0.7330 1.8154	1.6794 0.5357 0.4446 0.6404 1.6629	1.7130 0.5610 0.4147 0.5630 1.5275	1.7442 0.5835 0.3652 0.5029 1.4165	1.7701 0.6039 0.2948 0.4610 1.3355	1.7888 0.6214 0.2065 0.4348 1.2832	1.7999 0.6334 0.1062 0.4209 1.2547	1.8036 0.6376 0.0000 0.4164 1.2454	
0.65	1.6479 0.5036 0.4530 0.7359 1.8229	1.6815 0.5322 0.4396 0.6437 1.6709	1.7147 0.5581 0.4090 0.5661 1.5347	1.7458 0.5808 0.3594 0.5050 1.4213	1.7718 0.6011 0.2899 0.4616 1.3371	1.7907 0.6183 0.2030 0.4341 1.2818	1.8018 0.6301 0.1044 0.4193 1.2513	1.8056 0.6342 0.0000 0.4145 1.2414	
0.70	1.6503 0.4994 0.4494 0.7384 1.8294	1.6834 0.5289 0.4349 0.6466 1.6779	1.7164 0.5553 0.4036 0.5687 1.5409	1.7473 0.5782 0.3539 0.5067 1.4253	1.7735 0.5983 0.2852 0.4619 1.3379	1.7926 0.6151 0.1997 0.4330 1.2797	1.8040 0.6266 0.1028 0.4174 1.2472	1.8079 0.6306 0.0000 0.4123 1.2366	
0.75	1.6526 0.4954 0.4460 0.7404 1.8348	1.6853 0.5257 0.4305 0.6491 1.6840	1.7180 0.5526 0.3984 0.5710 1.5462	1.7489 0.5756 0.3487 0.5080 1.4286	1.7753 0.5954 0.2807 0.4618 1.3381	1.7948 0.6116 0.1966 0.4316 1.2768	1.8065 0.6227 0.1012 0.4151 1.2423	1.8104 0.6266 0.0000 0.4097 1.2311	
0.80	1.6549 0.4915 0.4427 0.7420 1.8394	1.6872 0.5226 0.4262 0.6513 1.6892	1.7196 0.5500 0.3935 0.5730 1.5508	1.7505 0.5730 0.3436 0.5091 1.4312	1.7772 0.5923 0.2764 0.4615 1.3376	1.7972 0.6079 0.1936 0.4298 1.2731	1.8092 0.6185 0.0996 0.4123 1.2365	1.8133 0.6222 0.0000 0.4067 1.2245	
0.85	1.6572 0.4877 0.4397 0.7432 1.8431	1.6890 0.5196 0.4222 0.6530 1.6935	1.7212 0.5474 0.3887 0.5746 1.5547	1.7521 0.5704 0.3388 0.5098 1.4331	1.7792 0.5892 0.2722 0.4608 1.3363	1.7998 0.6039 0.1907 0.4276 1.2684	1.8124 0.6138 0.0982 0.4090 1.2294	1.8166 0.6173 0.0000 0.4030 1.2166	
0.90	1.6594 0.4839 0.4368 0.7441 1.8459	1.6909 0.5166 0.4183 0.6544 1.6972	1.7228 0.5449 0.3842 0.5759 1.5579	1.7538 0.5678 0.3342 0.5103 1.4344	1.7813 0.5859 0.2682 0.4597 1.3343	1.8028 0.5995 0.1878 0.4249 1.2626	1.8160 0.6085 0.0968 0.4050 1.2208	1.8206 0.6116 0.0000 0.3986 1.2070	
0.95	1.6616 0.4802 0.4341 0.7445 1.8480	1.6927 0.5136 0.4147 0.6555 1.7001	1.7244 0.5423 0.3799 0.5769 1.5604	1.7555 0.5652 0.3297 0.5105 1.4352	1.7837 0.5824 0.2643 0.4583 1.3316	1.8062 0.5946 0.1850 0.4214 1.2554	1.8205 0.6022 0.0954 0.4000 1.2099	1.8254 0.6048 0.0000 0.3929 1.1947	
1.00	1.6638 0.4766 0.4315 0.7446 1.8493	1.6945 0.5107 0.4113 0.6563 1.7023	1.7260 0.5398 0.3758 0.5777 1.5624	1.7573 0.5626 0.3254 0.5105 1.4353	1.7863 0.5788 0.2604 0.4565 1.3279	1.8103 0.5889 0.1823 0.4171 1.2462	1.8263 0.5943 0.0940 0.3932 1.1952	1.8320 0.5959 0.0000 0.3850 1.1776	
F_x	0.6180	0.6406	0.6644	0.6880	0.7097	0.7273	0.7390	0.7430	

$$M_{\infty} = 3, \beta_K = 25^\circ, \alpha = 5^\circ$$

ξ	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.00	1.4205	1.4215	1.4246	1.4296	1.4364	1.4448	1.4545	1.4652	1.4765
	0.6624	0.6629	0.6643	0.6666	0.6698	0.6737	0.6783	0.6833	0.6885
	0.0000	0.0276	0.0544	0.0795	0.1021	0.1215	0.1368	0.1473	0.1525
	1.3788	1.3729	1.3555	1.3277	1.2911	1.2478	1.2000	1.1501	1.1005
	2.7237	2.7154	2.6908	2.6513	2.5989	2.5362	2.4664	2.3928	2.3187
0.05	1.4272	1.4285	1.4325	1.4390	1.4479	1.4588	1.4715	1.4856	1.5005
	0.6484	0.6488	0.6507	0.6539	0.6582	0.6635	0.6696	0.6764	0.6836
	0.0000	0.0284	0.0560	0.0818	0.1049	0.1246	0.1402	0.1509	0.1561
	1.3781	1.3723	1.3550	1.3274	1.2911	1.2479	1.2003	1.1506	1.1011
	2.7228	2.7155	2.6937	2.6588	2.6126	2.5573	2.4959	2.4313	2.3667
0.10	1.4338	1.4352	1.4392	1.4458	1.4548	1.4659	1.4787	1.4928	1.5077
	0.6344	0.6351	0.6372	0.6405	0.6450	0.6506	0.6570	0.6641	0.6716
	0.0000	0.0288	0.0568	0.0829	0.1064	0.1264	0.1421	0.1529	0.1582
	1.3764	1.3705	1.3534	1.3260	1.2899	1.2470	1.1996	1.1501	1.1007
	2.7203	2.7131	2.6919	2.6578	2.6126	2.5585	2.4981	2.4344	2.3703
0.15	1.4403	1.4416	1.4457	1.4524	1.4614	1.4725	1.4853	1.4994	1.5142
	0.6213	0.6220	0.6241	0.6276	0.6324	0.6382	0.6449	0.6522	0.6600
	0.0000	0.0291	0.0573	0.0837	0.1073	0.1274	0.1432	0.1540	0.1593
	1.3735	1.3678	1.3508	1.3236	1.2877	1.2451	1.1980	1.1487	1.0995
	2.7163	2.7093	2.6885	2.6550	2.6106	2.5573	2.4977	2.4346	2.3709
0.20	1.4466	1.4480	1.4521	1.4587	1.4677	1.4788	1.4916	1.5056	1.5204
	0.6086	0.6094	0.6116	0.6152	0.6201	0.6262	0.6331	0.6407	0.6487
	0.0000	0.0293	0.0577	0.0842	0.1079	0.1281	0.1439	0.1547	0.1599
	1.3697	1.3640	1.3472	1.3202	1.2846	1.2423	1.1955	1.1465	1.0974
	2.7110	2.7040	2.6836	2.6507	2.6070	2.5544	2.4955	2.4330	2.3696
0.25	1.4529	1.4543	1.4583	1.4650	1.4740	1.4850	1.4977	1.5117	1.5264
	0.5964	0.5972	0.5995	0.6032	0.6083	0.6146	0.6218	0.6296	0.6378
	0.0000	0.0295	0.0579	0.0846	0.1084	0.1286	0.1444	0.1551	0.1602
	1.3651	1.3594	1.3427	1.3160	1.2807	1.2388	1.1923	1.1435	1.0947
	2.7044	2.6976	2.6775	2.6451	2.6020	2.5501	2.4918	2.4298	2.3667
0.30	1.4591	1.4605	1.4645	1.4711	1.4801	1.4910	1.5037	1.5176	1.5322
	0.5845	0.5854	0.5878	0.5917	0.5969	0.6034	0.6108	0.6189	0.6273
	0.0000	0.0296	0.0582	0.0848	0.1087	0.1289	0.1446	0.1553	0.1603
	1.3596	1.3540	1.3375	1.3110	1.2761	1.2344	1.1883	1.1398	1.0912
	2.6966	2.6899	2.6702	2.6383	2.5957	2.5445	2.4868	2.4253	2.3625
0.35	1.4652	1.4666	1.4706	1.4772	1.4861	1.4970	1.5096	1.5233	1.5378
	0.5731	0.5739	0.5764	0.5804	0.5859	0.5925	0.6002	0.6085	0.6172
	0.0000	0.0297	0.0583	0.0851	0.1089	0.1291	0.1448	0.1554	0.1602
	1.3534	1.3479	1.3315	1.3053	1.2707	1.2294	1.1836	1.1355	1.0872
	2.6878	2.6812	2.6618	2.6304	2.5884	2.5378	2.4807	2.4196	2.3572
0.40	1.4713	1.4726	1.4766	1.4832	1.4920	1.5028	1.5153	1.5290	1.5434
	0.5619	0.5628	0.5653	0.5695	0.5751	0.5820	0.5899	0.5984	0.6073
	0.0000	0.0297	0.0585	0.0852	0.1091	0.1293	0.1449	0.1553	0.1601
	1.3465	1.3410	1.3249	1.2989	1.2646	1.2238	1.1784	1.1306	1.0825
	2.6780	2.6715	2.6524	2.6214	2.5800	2.5300	2.4735	2.4129	2.3508
0.45	1.4773	1.4786	1.4826	1.4891	1.4979	1.5086	1.5210	1.5346	1.5489
	0.5510	0.5519	0.5546	0.5589	0.5647	0.5718	0.5799	0.5886	0.5978
	0.0000	0.0298	0.0586	0.0854	0.1093	0.1294	0.1449	0.1553	0.1599
	1.3389	1.3335	1.3176	1.2919	1.2580	1.2175	1.1725	1.1251	1.0773
	2.6673	2.6609	2.6420	2.6115	2.5707	2.5212	2.4653	2.4052	2.3435
0.50	1.4833	1.4846	1.4886	1.4950	1.5037	1.5144	1.5267	1.5401	1.5543
	0.5404	0.5413	0.5441	0.5485	0.5545	0.5618	0.5701	0.5791	0.5885
	0.0000	0.0299	0.0587	0.0855	0.1094	0.1294	0.1449	0.1551	0.1597
	1.3308	1.3254	1.3096	1.2843	1.2507	1.2107	1.1661	1.1191	1.0717
	2.6556	2.6494	2.6308	2.6007	2.5604	2.5116	2.4562	2.3966	2.3353

$$M_{\infty} = 3, \beta_{\kappa} = 25^{\circ}, \alpha = 5^{\circ}$$

ξ	θ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.55	1.4893	1.4906	1.4945	1.5009	1.5095	1.5201	1.5323	1.5456	1.5597
	0.5300	0.5310	0.5338	0.5384	0.5445	0.5520	0.5605	0.5698	0.5793
	0.0000	0.0299	0.0588	0.0856	0.1094	0.1294	0.1448	0.1550	0.1594
	1.3220	1.3167	1.3011	1.2761	1.2429	1.2033	1.1592	1.1125	1.0655
	2.6431	2.6369	2.6187	2.5890	2.5493	2.5010	2.4463	2.3872	2.3262
0.60	1.4952	1.4965	1.5004	1.5067	1.5153	1.5258	1.5379	1.5511	1.5651
	0.5198	0.5208	0.5237	0.5284	0.5347	0.5424	0.5512	0.5606	0.5704
	0.0000	0.0299	0.0588	0.0857	0.1095	0.1294	0.1447	0.1548	0.1591
	1.3127	1.3074	1.2921	1.2674	1.2346	1.1954	1.1517	1.1055	1.0588
	2.6298	2.6237	2.6057	2.5765	2.5373	2.4896	2.4354	2.3769	2.3162
0.65	1.5012	1.5025	1.5063	1.5126	1.5210	1.5314	1.5434	1.5566	1.5705
	0.5098	0.5108	0.5138	0.5186	0.5251	0.5330	0.5420	0.5516	0.5616
	0.0000	0.0300	0.0589	0.0857	0.1096	0.1294	0.1447	0.1546	0.1588
	1.3027	1.2976	1.2824	1.2580	1.2257	1.1870	1.1437	1.0980	1.0516
	2.6156	2.6096	2.5919	2.5631	2.5245	2.4774	2.4238	2.3657	2.3055
0.70	1.5072	1.5085	1.5123	1.5185	1.5268	1.5371	1.5490	1.5621	1.5758
	0.4999	0.5009	0.5040	0.5090	0.5156	0.5237	0.5329	0.5428	0.5530
	0.0000	0.0300	0.0590	0.0858	0.1096	0.1294	0.1445	0.1544	0.1584
	1.2923	1.2872	1.2723	1.2482	1.2163	1.1780	1.1353	1.0900	1.0440
	2.6005	2.5946	2.5772	2.5489	2.5108	2.4644	2.4113	2.3538	2.2940
0.75	1.5132	1.5145	1.5182	1.5244	1.5327	1.5429	1.5546	1.5676	1.5812
	0.4901	0.4912	0.4943	0.4994	0.5062	0.5145	0.5239	0.5340	0.5444
	0.0000	0.0301	0.0590	0.0859	0.1096	0.1294	0.1444	0.1542	0.1581
	1.2812	1.2762	1.2615	1.2378	1.2063	1.1686	1.1263	1.0815	1.0359
	2.5847	2.5789	2.5617	2.5339	2.4963	2.4505	2.3981	2.3410	2.2816
0.80	1.5193	1.5205	1.5243	1.5303	1.5385	1.5486	1.5603	1.5731	1.5867
	0.4804	0.4815	0.4847	0.4899	0.4970	0.5054	0.5150	0.5254	0.5360
	0.0000	0.0301	0.0591	0.0859	0.1097	0.1294	0.1443	0.1539	0.1578
	1.2696	1.2647	1.2502	1.2269	1.1958	1.1586	1.1168	1.0725	1.0274
	2.5679	2.5622	2.5454	2.5180	2.4810	2.4357	2.3839	2.3274	2.2684
0.85	1.5254	1.5267	1.5303	1.5363	1.5445	1.5545	1.5660	1.5787	1.5922
	0.4707	0.4719	0.4752	0.4805	0.4877	0.4964	0.5062	0.5167	0.5275
	0.0000	0.0301	0.0591	0.0860	0.1097	0.1293	0.1442	0.1537	0.1574
	1.2574	1.2526	1.2383	1.2153	1.1848	1.1480	1.1068	1.0630	1.0183
	2.5503	2.5447	2.5281	2.5012	2.4648	2.4201	2.3689	2.3130	2.2544
0.90	1.5317	1.5329	1.5365	1.5424	1.5505	1.5604	1.5718	1.5845	1.5978
	0.4611	0.4622	0.4656	0.4711	0.4785	0.4873	0.4974	0.5081	0.5191
	0.0000	0.0301	0.0592	0.0860	0.1097	0.1293	0.1441	0.1535	0.1571
	1.2446	1.2399	1.2259	1.2032	1.1731	1.1369	1.0962	1.0529	1.0087
	2.5317	2.5262	2.5100	2.4835	2.4476	2.4036	2.3530	2.2976	2.2394
0.95	1.5380	1.5392	1.5428	1.5487	1.5566	1.5664	1.5777	1.5903	1.6036
	0.4514	0.4526	0.4561	0.4617	0.4692	0.4783	0.4885	0.4994	0.5106
	0.0000	0.0302	0.0592	0.0861	0.1097	0.1293	0.1440	0.1533	0.1568
	1.2312	1.2265	1.2127	1.1905	1.1608	1.1252	1.0851	1.0422	0.9985
	2.5121	2.5067	2.4908	2.4647	2.4294	2.3860	2.3361	2.2812	2.2235
1.00	1.5445	1.5457	1.5493	1.5550	1.5629	1.5726	1.5838	1.5962	1.6094
	0.4417	0.4429	0.4464	0.4522	0.4599	0.4691	0.4795	0.4907	0.5020
	0.0000	0.0302	0.0593	0.0862	0.1098	0.1293	0.1439	0.1531	0.1565
	1.2170	1.2124	1.1989	1.1770	1.1479	1.1128	1.0732	1.0309	0.9876
	2.4914	2.4861	2.4705	2.4449	2.4102	2.3674	2.3181	2.2638	2.2065
F_x	0.6722	0.6726	0.6736	0.6753	0.6776	0.6804	0.6838	0.6874	0.6914

$$M_{\infty} = 3, \beta_{\kappa} = 25^{\circ}, \alpha = 5^{\circ}$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.00	1.4881	1.4993	1.5099	1.5192	1.5270	1.5328	1.5364	1.5778	1.5377
	0.6939	0.6992	0.7041	0.7084	0.7121	0.7148	0.7165	0.7358	0.7170
	0.1520	0.1454	0.1327	0.1142	0.0906	0.0629	0.0322	0.0000	0.0000
	1.0533	1.0101	0.9724	0.9409	0.9163	0.8987	0.8882	0.8847	0.8847
	2.2471	2.1810	2.1224	2.0732	2.0343	2.0063	1.9895	2.0856	1.9838
0.05	1.5158	1.5308	1.5451	1.5579	1.5686	1.5767	1.5817	1.5835	
	0.6910	0.6983	0.7052	0.7114	0.7166	0.7205	0.7230	0.7237	
	0.1554	0.1486	0.1357	0.1169	0.0929	0.0645	0.0331	0.0000	
	1.0539	1.0106	0.9727	0.9411	0.9162	0.8985	0.8878	0.8812	
	2.3047	2.2479	2.1983	2.1573	2.1253	2.1028	2.0894	2.0849	
0.10	1.5229	1.5378	1.5518	1.5643	1.5747	1.5825	1.5873	1.5890	
	0.6793	0.6867	0.6938	0.7000	0.7053	0.7092	0.7116	0.7124	
	0.1575	0.1506	0.1376	0.1186	0.0942	0.0655	0.0336	0.0000	
	1.0535	1.0102	0.9722	0.9404	0.9154	0.8974	0.8866	0.8830	
	2.3084	2.2514	2.2011	2.1589	2.1257	2.1019	2.0877	2.0829	
0.15	1.5293	1.5441	1.5579	1.5702	1.5803	1.5880	1.5927	1.5943	
	0.6678	0.6755	0.6827	0.6891	0.6944	0.6984	0.7009	0.7017	
	0.1585	0.1516	0.1384	0.1192	0.0947	0.0658	0.0338	0.0000	
	1.0523	1.0090	0.9709	0.9390	0.9138	0.8957	0.8848	0.8812	
	2.3092	2.2519	2.2010	2.1581	2.1240	2.0995	2.0847	2.0797	
0.20	1.5354	1.5500	1.5637	1.5758	1.5858	1.5933	1.5979	1.5995	
	0.6568	0.6647	0.6720	0.6785	0.6840	0.6881	0.6906	0.6914	
	0.1590	0.1520	0.1387	0.1194	0.0948	0.0659	0.0338	0.0000	
	1.0504	1.0071	0.9689	0.9369	0.9115	0.8933	0.8823	0.8787	
	2.3079	2.2504	2.1992	2.1556	2.1209	2.0958	2.0806	2.0755	
0.25	1.5413	1.5558	1.5693	1.5812	1.5911	1.5985	1.6031	1.6047	
	0.6461	0.6542	0.6617	0.6684	0.6740	0.6781	0.6807	0.6816	
	0.1592	0.1521	0.1387	0.1193	0.0947	0.0657	0.0337	0.0000	
	1.0478	1.0045	0.9663	1.9341	0.9087	0.8904	0.8793	0.8756	
	2.3052	2.2476	2.1959	2.1519	2.1167	2.0911	2.0756	2.0704	
0.30	1.5470	1.5613	1.5747	1.5866	1.5964	1.6037	1.6082	1.6097	
	0.6359	0.6441	0.6518	0.6587	0.6643	0.6686	0.6712	0.6721	
	0.1592	0.1519	0.1385	0.1191	0.0945	0.0655	0.0336	0.0000	
	1.0445	1.0013	0.9631	0.9309	0.9053	0.8869	0.8758	0.8721	
	2.3011	2.2434	2.1915	2.1471	2.1114	2.0855	2.0697	2.0644	
0.35	1.5525	1.5668	1.5801	1.5918	1.6015	1.6087	1.6132	1.6147	
	0.6259	0.6344	0.6423	0.6492	0.6550	0.6594	0.6620	0.6629	
	0.1591	0.1517	0.1381	0.1187	0.0941	0.0653	0.0334	0.0000	
	1.0406	0.9975	0.9593	0.9271	0.9015	0.8830	0.8718	0.8680	
	2.2959	2.2382	2.1860	2.1413	2.1053	2.0790	2.0629	2.0575	
0.40	1.5580	1.5721	1.5853	1.5970	1.6066	1.6138	1.6182	1.6197	
	0.6163	0.6250	0.6330	0.6401	0.6460	0.6504	0.6531	0.6540	
	0.1588	0.1513	0.1377	0.1183	0.0937	0.0650	0.0333	0.0000	
	1.0362	0.9932	0.9551	0.9228	0.8971	0.8785	0.8673	0.8635	
	2.2897	2.2319	2.1796	2.1346	2.0983	2.0716	2.0554	2.0499	
0.45	1.5633	1.5774	1.5905	1.6021	1.6116	1.6188	1.6232	1.6247	
	0.6069	0.6158	0.6240	0.6312	0.6372	0.6417	0.6444	0.6454	
	0.1585	0.1509	0.1372	0.1178	0.0933	0.0647	0.0331	0.0000	
	1.0312	0.9884	0.9503	0.9180	0.8923	0.8737	0.8624	0.8586	
	2.2826	2.2248	2.1723	2.1271	2.0904	2.0636	2.0472	2.0416	
0.50	1.5687	1.5826	1.5956	1.6071	1.6166	1.6237	1.6281	1.6296	
	0.5978	0.6069	0.6152	0.6225	0.6286	0.6332	0.6360	0.6369	
	0.1581	0.1505	0.1367	0.1173	0.0929	0.0643	0.0329	0.0000	
	1.0258	0.9831	0.9451	0.9128	0.8871	0.8684	0.8571	0.8533	
	2.2745	2.2168	2.1642	2.1187	2.0819	2.0548	2.0382	2.0326	

$$M_{\infty} = 3, \beta_{\kappa} = 25^{\circ}, \alpha = 5^{\circ}$$

ξ	η								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.55	1.5740 0.5889 0.1577 1.0198 2.2656	1.5878 0.5981 0.1500 0.9774 2.2080	1.6007 0.6066 0.1362 0.9394 2.1553	1.6122 0.6141 0.1168 0.9072 2.1097	1.6216 0.6202 0.0924 0.8815 2.0726	1.6287 0.6248 0.0640 0.8628 2.0452	1.6331 0.6276 0.0327 0.8514 2.0285	1.6346 0.6286 0.0000 0.8476 2.0228	
0.60	1.5792 0.5802 0.1573 1.0135 2.2559	1.5930 0.5895 0.1495 0.9712 2.1983	1.6059 0.5982 0.1356 0.9334 2.1456	1.6172 0.6057 0.1162 0.9012 2.0998	1.6267 0.6120 0.0919 0.8754 2.0625	1.6337 0.6166 0.0636 0.8567 2.0350	1.6380 0.6195 0.0325 0.8453 2.0181	1.6395 0.6204 0.0000 0.8415 2.0124	
0.65	1.5845 0.5716 0.1569 1.0066 2.2455	1.5982 0.5811 0.1490 0.9645 2.1879	1.6110 0.5899 0.1351 0.9268 2.1352	1.6223 0.5975 0.1157 0.8947 2.0892	1.6317 0.6038 0.0915 0.8689 2.0517	1.6387 0.6085 0.0633 0.8502 2.0240	1.6431 0.6114 0.0324 0.8388 2.0070	1.6445 0.6123 0.0000 0.8350 2.0012	
0.70	1.5898 0.5631 0.1565 0.9993 2.2342	1.6034 0.5728 0.1485 0.9574 2.1768	1.6161 0.5817 0.1345 0.9199 2.1240	1.6274 0.5894 0.1152 0.8878 2.0779	1.6368 0.5957 0.0910 0.8621 2.0402	1.6438 0.6004 0.0629 0.8433 2.0123	1.6481 0.6033 0.0322 0.8319 1.9952	1.6496 0.6043 0.0000 0.8280 1.9894	
0.75	1.5951 0.5548 0.1560 0.9915 2.2221	1.6087 0.5646 0.1479 0.9499 2.1648	1.6213 0.5735 0.1340 0.9125 2.1120	1.6326 0.5813 0.1146 0.8805 2.0657	1.6419 0.5877 0.0905 0.8547 2.0279	1.6490 0.5924 0.0626 0.8359 1.9998	1.6533 0.5953 0.0320 0.8245 1.9825	1.6548 0.5963 0.0000 0.8207 1.9767	
0.8	1.6005 0.5464 0.1556 0.9833 2.2092	1.6140 0.5564 0.1474 0.9419 2.1520	1.6266 0.5654 0.1334 0.9046 2.0992	1.6379 0.5733 0.1141 0.8727 2.0528	1.6472 0.5797 0.0900 0.8470 2.0148	1.6542 0.5844 0.0622 0.8281 1.9865	1.6585 0.5873 0.0318 0.8167 1.9691	1.6600 0.5883 0.0000 0.8128 1.9632	
0.85	1.6059 0.5381 0.1552 0.9746 2.1954	1.6194 0.5482 0.1469 0.9334 2.1384	1.6320 0.5573 0.1329 0.8963 2.0855	1.6432 0.5652 0.1136 0.8644 2.0390	1.6526 0.5717 0.0896 0.8387 2.0008	1.6596 0.5764 0.0619 0.8198 1.9723	1.6639 0.5793 0.0316 0.8083 1.9547	1.6654 0.5802 0.0000 0.8045 1.9488	
0.90	1.6115 0.5298 0.1548 0.9653 2.1807	1.6249 0.5400 0.1464 0.9244 2.1238	1.6375 0.5492 0.1323 0.8874 2.0709	1.6487 0.5571 0.1130 0.8555 2.0242	1.6581 0.5636 0.0891 0.8299 1.9858	1.6651 0.5682 0.0615 0.8110 1.9571	1.6695 0.5711 0.0314 0.7995 1.9394	1.6710 0.5721 0.0000 0.7956 1.9333	
0.95	1.6171 0.5215 0.1543 0.9554 2.1651	1.6305 0.5317 0.1459 0.9148 2.1082	1.6431 0.5410 0.1318 0.8779 2.0552	1.6544 0.5489 0.1125 0.8461 2.0084	1.6638 0.5553 0.0887 0.8204 1.9697	1.6709 0.5600 0.0612 0.8015 1.9407	1.6753 0.5628 0.0313 0.7899 1.9228	1.6768 0.5637 0.0000 0.7860 1.9168	
1.00	1.6230 0.5130 0.1539 0.9450 2.1483	1.6363 0.5233 0.1455 0.9045 2.0915	1.6489 0.5326 0.1313 0.8678 2.0384	1.6603 0.5405 0.1120 0.8360 1.9913	1.6697 0.5468 0.0882 0.8103 1.9523	1.6769 0.5514 0.0609 0.7913 1.9231	1.6813 0.5542 0.0311 0.7797 1.9050	1.6829 0.5551 0.0000 0.7757 1.8988	
F_x	0.6954	0.6993	0.7030	0.7063	0.7089	0.7110	0.7122	0.7126	

$$M_{\infty} = 3, \beta_K = 25^{\circ}, \alpha = 10^{\circ}$$

ξ	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.00	1.3224 0.6167 0.0000 1.6692 3.0186	1.3244 0.6176 0.0525 1.6554 3.0008	1.3304 0.6204 0.1038 1.6150 2.9483	1.3401 0.6249 0.1524 1.5510 2.8643	1.3534 0.6311 0.1971 1.4679 2.7539	1.3699 0.6388 0.2366 1.3714 2.6232	1.3891 0.6478 0.2695 1.2675 2.4797	1.4107 0.6578 0.2944 1.1623 2.3309	1.4339 0.6686 0.3098 1.0613 2.1843
0.05	1.3296 0.6015 0.0000 1.6685 3.0177	1.3320 0.6027 0.0536 1.6549 3.0014	1.3393 0.6062 0.1058 1.6149 2.9536	1.3512 0.6121 0.1552 1.5515 2.8771	1.3674 0.6200 0.2003 1.4693 2.7762	1.3876 0.6299 0.2399 1.3736 2.6569	1.4113 0.6415 0.2724 1.2705 2.5256	1.4378 0.6544 0.2967 1.1659 2.3896	1.4664 0.6683 0.3113 1.0652 2.2560
0.10	1.3366 0.5869 0.0000 1.6664 3.0150	1.3391 0.5882 0.0543 1.6529 2.9993	1.3466 0.5920 0.1071 1.6134 2.9531	1.3588 0.5983 0.1570 1.5508 2.8791	1.3755 0.6069 0.2025 1.4694 2.7815	1.3962 0.6175 0.2422 1.3746 2.6658	1.4204 0.6299 0.2749 1.2723 2.5381	1.4474 0.6436 0.2991 1.1684 2.4054	1.4765 0.6584 0.3135 1.0682 2.2743
0.15	1.3435 0.5728 0.0000 1.6631 3.0107	1.3461 0.5742 0.0548 1.6498 2.9955	1.3536 0.5783 0.1081 1.6108 2.9507	1.3660 0.5850 0.1583 1.5489 2.8788	1.3829 0.5941 0.2041 1.4683 2.7838	1.4039 0.6053 0.2439 1.3745 2.6709	1.4282 0.6184 0.2765 1.2732 2.5461	1.4554 0.6328 0.3005 1.1700 2.4158	1.4845 0.6482 0.3147 1.0703 2.2865
0.20	1.3503 0.5593 0.0000 1.6587 3.0050	1.3529 0.5607 0.0552 1.6455 2.9902	1.3605 0.5650 0.1089 1.6070 2.9466	1.3730 0.5721 0.1594 1.5459 2.8765	1.3899 0.5817 0.2053 1.4663 2.7839	1.4109 0.5935 0.2452 1.3735 2.6735	1.4354 0.6071 0.2777 1.2731 2.5512	1.4625 0.6222 0.3015 1.1707 2.4230	1.4916 0.6382 0.3154 1.0715 2.2951
0.25	1.3570 0.5461 0.0000 1.6532 2.9979	1.3596 0.5477 0.0556 1.6402 2.9835	1.3672 0.5522 0.1095 1.6022 2.9410	1.3797 0.5596 0.1603 1.5419 2.8727	1.3967 0.5696 0.2064 1.4633 2.7822	1.4177 0.5820 0.2463 1.3715 2.6742	1.4421 0.5963 0.2786 1.2722 2.5541	1.4691 0.6120 0.3021 1.1706 2.4278	1.4980 0.6285 0.3156 1.0720 2.3012
0.30	1.3637 0.5334 0.0000 1.6468 2.9895	1.3662 0.5350 0.0559 1.6340 2.9755	1.3738 0.5398 0.1102 1.5965 2.9341	1.3863 0.5475 0.1611 1.5370 2.8675	1.4032 0.5580 0.2073 1.4594 2.7790	1.4242 0.5709 0.2471 1.3688 2.6732	1.4484 0.5857 0.2793 1.2704 2.5552	1.4754 0.6020 0.3025 1.1698 2.4306	1.5041 0.6191 0.3156 1.0718 2.3053
0.35	1.3702 0.5211 0.0000 1.6394 2.9800	1.3728 0.5227 0.0562 1.6268 2.9663	1.3804 0.5277 0.1107 1.5899 2.9260	1.3928 0.5358 0.1619 1.5313 2.8609	1.4096 0.5467 0.2081 1.4547 2.7744	1.4304 0.5601 0.2478 1.3652 2.6707	1.4546 0.5756 0.2798 1.2680 2.5548	1.4813 0.5924 0.3027 1.1683 2.4319	1.5098 0.6101 0.3154 1.0710 2.3076
0.40	1.3767 0.5090 0.0000 1.6313 2.9694	1.3793 0.5108 0.0565 1.6189 2.9561	1.3868 0.5159 0.1112 1.5826 2.9167	1.3991 0.5244 0.1625 1.5248 2.8532	1.4159 0.5358 0.2088 1.4493 2.7686	1.4365 0.5497 0.2485 1.3609 2.6670	1.4605 0.5657 0.2802 1.2648 2.5529	1.4870 0.5831 0.3028 1.1661 2.4317	1.5153 0.6013 0.3151 1.0695 2.3086
0.45	1.3832 0.4973 0.0000 1.6224 2.9578	1.3857 0.4991 0.0568 1.6102 2.9448	1.3932 0.5045 0.1117 1.5744 2.9064	1.4054 0.5133 0.1632 1.5175 2.8444	1.4220 0.5251 0.2095 1.4431 2.7617	1.4425 0.5395 0.2491 1.3560 2.6620	1.4663 0.5561 0.2806 1.2610 2.5499	1.4926 0.5741 0.3028 1.1633 2.4302	1.5206 0.5928 0.3146 1.0675 2.3082
0.50	1.3896 0.4858 0.0000 1.6126 2.9452	1.3921 0.4877 0.0570 1.6007 2.9326	1.3995 0.4933 0.1122 1.5655 2.8951	1.4116 0.5024 0.1638 1.5095 2.8346	1.4281 0.5147 0.2101 1.4363 2.7537	1.4484 0.5297 0.2496 1.3504 2.6560	1.4719 0.5467 0.2808 1.2566 2.5457	1.4980 0.5653 0.3027 1.1599 2.4276	1.5257 0.5845 0.3141 1.0649 2.3067

$$M_{\infty} = 3, \beta_{\kappa} = 25^{\circ}, \alpha = 10^{\circ}$$

ξ	θ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.55	1.3960	1.3985	1.4058	1.4178	1.4341	1.4542	1.4775	1.5033	1.5308
	0.4746	0.4766	0.4824	0.4918	0.5045	0.5200	0.5377	0.5568	0.5765
	0.0000	0.0573	0.1126	0.1644	0.2107	0.2500	0.2811	0.3026	0.3136
	1.6023	1.5905	1.5560	1.5009	1.4289	1.3442	1.2516	1.1560	1.0619
	2.9317	2.9193	2.8828	2.8237	2.7446	2.6489	2.5405	2.4240	2.3041
0.60	1.4024	1.4049	1.4121	1.4240	1.4401	1.4599	1.4830	1.5085	1.5357
	0.4636	0.4656	0.4717	0.4814	0.4946	0.5106	0.5288	0.5484	0.5687
	0.0000	0.0575	0.1131	0.1649	0.2112	0.2505	0.2813	0.3025	0.3130
	1.5913	1.5797	1.5458	1.4916	1.4208	1.3374	1.2461	1.1516	1.0583
	2.9172	2.9052	2.8696	2.8120	2.7346	2.6408	2.5342	2.4193	2.3026
0.65	1.4088	1.4112	1.4184	1.4301	1.4460	1.4656	1.4884	1.5136	1.5406
	0.4528	0.4549	0.4611	0.4712	0.4848	0.5013	0.5201	0.5403	0.5611
	0.0000	0.0577	0.1135	0.1655	0.2118	0.2509	0.2815	0.3023	0.3124
	1.5796	1.5682	1.5349	1.4817	1.4121	1.3300	1.2400	1.1467	1.0543
	2.9019	2.8902	2.8555	2.7993	2.7237	2.6318	2.5271	2.4137	2.2961
0.70	1.4152	1.4178	1.4247	1.4362	1.4519	1.4713	1.4938	1.5187	1.5454
	0.4421	0.4443	0.4507	0.4612	0.4752	0.4922	0.5116	0.5323	0.5536
	0.0000	0.0580	0.1139	0.1660	0.2123	0.2514	0.2817	0.3021	0.3118
	1.5672	1.5561	1.5234	1.4712	1.4028	1.3221	1.2334	1.1412	1.0498
	2.8856	2.8742	2.8405	2.7857	2.7119	2.6218	2.5190	2.4072	2.2907
0.75	1.4217	1.4240	1.4310	1.4423	1.4578	1.4769	1.4991	1.5238	1.5502
	0.4316	0.4338	0.4405	0.4513	0.4657	0.4833	0.5032	0.5245	0.5463
	0.0000	0.0582	0.1143	0.1665	0.2129	0.2518	0.2818	0.3020	0.3112
	1.5542	1.5433	1.5113	1.4601	1.3929	1.3136	1.2263	1.1354	1.0449
	2.8685	2.8574	2.8246	2.7712	2.6991	2.6110	2.5100	2.3998	2.2845
0.80	1.4281	1.4304	1.4373	1.4485	1.4637	1.4826	1.5045	1.5288	1.5549
	0.4211	0.4234	0.4303	0.4414	0.4564	0.4745	0.4949	0.5168	0.5391
	0.0000	0.0584	0.1148	0.1670	0.2134	0.2522	0.2820	0.3018	0.3106
	1.5405	1.5298	1.4985	1.4484	1.3825	1.3046	1.2186	1.1290	1.0395
	2.8505	2.8397	2.8078	2.7558	2.6855	2.5993	2.5001	2.3915	2.2774
0.85	1.4347	1.4369	1.4437	1.4547	1.4697	1.4882	1.5098	1.5339	1.5597
	0.4107	0.4131	0.4202	0.4317	0.4471	0.4657	0.4867	0.5091	0.5320
	0.0000	0.0586	0.1152	0.1676	0.2139	0.2526	0.2822	0.3016	0.3101
	1.5262	1.5157	1.4851	1.4360	1.3715	1.2950	1.2105	1.1221	1.0337
	2.8315	2.8210	2.7901	2.7395	2.6710	2.5867	2.4894	2.3824	2.2695
0.90	1.4413	1.4435	1.4501	1.4610	1.4757	1.4939	1.5152	1.5389	1.5645
	0.4004	0.4029	0.4102	0.4220	0.4379	0.4570	0.4786	0.5016	0.5249
	0.0000	0.0588	0.1156	0.1681	0.2144	0.2530	0.2824	0.3015	0.3095
	1.5112	1.5010	1.4710	1.4230	1.3598	1.2848	1.2018	1.1147	1.0274
	2.8115	2.8014	2.7714	2.7222	2.6555	2.5731	2.4777	2.3724	2.2608
0.95	1.4480	1.4502	1.4567	1.4673	1.4818	1.4997	1.5207	1.5441	1.5693
	0.3901	0.3926	0.4001	0.4124	0.4287	0.4484	0.4705	0.4941	0.5179
	0.0000	0.0591	0.1160	0.1686	0.2150	0.2534	0.2826	0.3013	0.3090
	1.4954	1.4855	1.4562	1.4094	1.3475	1.2740	1.1926	1.1069	1.0206
	2.7906	2.7808	2.7517	2.7040	2.6390	2.5586	2.4651	2.3615	2.2512
1.00	1.4548	1.4570	1.4633	1.4737	1.4879	1.5056	1.5262	1.5492	1.5742
	0.3797	0.3823	0.3901	0.4027	0.4195	0.4397	0.4624	0.4865	0.5109
	0.0000	0.0593	0.1164	0.1691	0.2155	0.2539	0.2828	0.3012	0.3085
	1.4789	1.4692	1.4407	1.3950	1.3346	1.2627	1.1827	1.0984	1.0133
	2.7686	2.7591	2.7309	2.6847	2.6215	2.5431	2.4516	2.3497	2.2407
F_x	0.6650	0.6656	0.6676	0.6709	0.6754	0.6812	0.6880	0.6959	0.7045

$$M_{\infty} = 3, \beta_{\kappa} = 25^{\circ}, \alpha = 10^{\circ}$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.00	1.4578 0.6798 0.3143 0.9690 2.0469	1.4818 0.6910 0.3062 0.8889 1.9246	1.5047 0.7016 0.2843 0.8232 1.8218	1.5253 0.7113 0.2479 0.7725 1.7410	1.5426 0.7193 0.1981 0.7362 1.6821	1.5556 0.7254 0.1375 0.7125 1.6432	1.5635 0.7291 0.0705 0.6993 1.6216	1.6377 0.7637 0.0000 0.6951 1.7792	1.5662 0.7303 0.0000 0.6951 1.6145
0.05	1.4964 0.6829 0.3148 0.9729 2.1314	1.5266 0.6976 0.3060 0.8926 2.0221	1.5561 0.7120 0.2839 0.8263 1.9325	1.5835 0.7254 0.2481 0.7748 1.8654	1.6074 0.7371 0.1995 0.7375 1.8205	1.6262 0.7462 0.1399 0.7130 1.7946	1.6381 0.7520 0.0724 0.6993 1.7823	1.6423 0.7539 0.0000 0.6948 1.7786	
0.10	1.5066 0.6737 0.3169 0.9761 2.1513	1.5369 0.6889 0.3080 0.8955 2.0422	1.5659 0.7036 0.2860 0.8286 1.9513	1.5925 0.7171 0.2504 0.7764 1.8810	1.6151 0.7286 0.2018 0.7383 1.8314	1.6323 0.7375 0.1418 0.7129 1.7997	1.6430 0.7431 0.0734 0.6986 1.7826	1.6468 0.7448 0.0000 0.6939 1.7771	
0.15	1.5146 0.6641 0.3179 0.9783 2.1644	1.5446 0.6798 0.3088 0.8976 2.0549	1.5732 0.6948 0.2866 0.8303 1.9625	1.5992 0.7084 0.2509 0.7773 1.8896	1.6209 0.7200 0.2022 0.7384 1.8364	1.6374 0.7289 0.1420 0.7123 1.8011	1.6475 0.7356 0.0734 0.6975 1.7812	1.6510 0.7364 0.0000 0.6926 1.7747	
0.20	1.5215 0.6546 0.3182 0.9798 2.1736	1.5512 0.6707 0.3087 0.8990 2.0638	1.5795 0.6860 0.2863 0.8313 1.9699	1.6049 0.6999 0.2504 0.7777 1.8947	1.6261 0.7116 0.2016 0.7381 1.8386	1.6420 0.7207 0.1415 0.7112 1.8006	1.6518 0.7264 0.0731 0.6959 1.7788	1.6552 0.7283 0.0000 0.6909 1.7715	
0.25	1.5278 0.6454 0.3180 0.9806 2.1802	1.5572 0.6619 0.3082 0.8998 2.0700	1.5851 0.6775 0.2855 0.8317 1.9748	1.6101 0.6916 0.2494 0.7775 1.8975	1.6309 0.7036 0.2006 0.7372 1.8390	1.6465 0.7128 0.1406 0.7097 1.7988	1.6560 0.7186 0.0725 0.6940 1.7754	1.6593 0.7205 0.0000 0.6887 1.7676	
0.30	1.5336 0.6305 0.3176 0.9808 2.1847	1.5627 0.6534 0.3074 0.8999 2.0741	1.5903 0.6693 0.2843 0.8315 1.9777	1.6150 0.6836 0.2481 0.7768 1.8986	1.6355 0.6958 0.1993 0.7358 1.8381	1.6508 0.7051 0.1396 0.7078 1.7959	1.6601 0.7111 0.0719 0.6916 1.7713	1.6634 0.7131 0.0000 0.6862 1.7630	
0.35	1.5391 0.6279 0.3169 0.9803 2.1875	1.5680 0.6452 0.3063 0.8994 2.0766	1.5953 0.6614 0.2829 0.8308 1.9791	1.6197 0.6759 0.2465 0.7756 1.8984	1.6399 0.6883 0.1978 0.7340 1.8360	1.6550 0.6977 0.1384 0.7055 1.7922	1.6642 0.7038 0.0713 0.6889 1.7665	1.6674 0.7058 0.0000 0.6834 1.7578	
0.40	1.5443 0.6195 0.3161 0.9792 2.1889	1.5729 0.6372 0.3051 0.8985 2.0776	1.6000 0.6537 0.2814 0.8296 1.9792	1.6242 0.6685 0.2449 0.7740 1.8970	1.6442 0.6810 0.1962 0.7319 1.8330	1.6592 0.6906 0.1372 0.7028 1.7878	1.6683 0.6967 0.0706 0.6859 1.7610	1.6715 0.6988 0.0000 0.6802 1.7520	
0.45	1.5493 0.6115 0.3152 0.9777 2.1890	1.5778 0.6296 0.3038 0.8970 2.0775	1.6046 0.6463 0.2798 0.8280 1.9782	1.6286 0.6613 0.2431 0.7719 1.8947	1.6485 0.6739 0.1946 0.7293 1.8292	1.6633 0.6836 0.1361 0.6998 1.7826	1.6724 0.6898 0.0699 0.6825 1.7548	1.6756 0.6918 0.0000 0.6767 1.7455	
0.50	1.5542 0.6037 0.3143 0.9756 2.1879	1.5824 0.6221 0.3024 0.8951 2.0763	1.6091 0.6392 0.2781 0.8259 1.9762	1.6329 0.6543 0.2413 0.7695 1.8914	1.6527 0.6670 0.1930 0.7264 1.8245	1.6675 0.6767 0.1349 0.6964 1.7767	1.6765 0.6830 0.0692 0.6788 1.7481	1.6800 0.6850 0.0000 0.6730 1.7386	

$$M_{\infty} = 3, \beta_{\kappa} = 25^{\circ}, \alpha = 10^{\circ}$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.55	1.5590	1.5870	1.6135	1.6372	1.6569	1.6716	1.6807	1.6838	
	0.5962	0.6149	0.6322	0.6475	0.6603	0.6701	0.6762	0.6781	
	0.3133	0.3010	0.2764	0.2396	0.1913	0.1338	0.0685	0.0000	
	0.9730	0.8927	0.8234	0.7666	0.7231	0.6926	0.6747	0.6689	
	2.1859	2.0741	1.9733	1.8873	1.8191	1.7700	1.7407	1.7311	
0.60	1.5637	1.5915	1.6178	1.6414	1.6611	1.6759	1.6859	1.6879	
	0.5888	0.6079	0.6254	0.6408	0.6536	0.6634	0.6696	0.6715	
	0.3122	0.2995	0.2747	0.2378	0.1897	0.1325	0.0679	0.0000	
	0.9700	0.8900	0.8206	0.7634	0.7194	0.6883	0.6703	0.6647	
	2.1828	2.0709	1.9695	1.8825	1.8129	1.7624	1.7326	1.7233	
0.65	1.5683	1.5959	1.6221	1.6457	1.6653	1.6802	1.6892	1.6920	
	0.5816	0.6011	0.6188	0.6343	0.6471	0.6567	0.6629	0.6652	
	0.3112	0.2981	0.2730	0.2360	0.1881	0.1311	0.0672	0.0000	
	0.9666	0.8868	0.8173	0.7599	0.7154	0.6838	0.6656	0.6600	
	2.1789	2.0670	1.9649	1.8768	1.8061	1.7543	1.7239	1.7146	
0.70	1.5729	1.6002	1.6264	1.6499	1.6696	1.6845	1.6936	1.6966	
	0.5746	0.5943	0.6122	0.6278	0.6406	0.6501	0.6563	0.6585	
	0.3102	0.2966	0.2713	0.2342	0.1865	0.1298	0.0666	0.0000	
	0.9627	0.8832	0.8137	0.7559	0.7111	0.6791	0.6605	0.6545	
	2.1741	2.0622	1.9595	1.8705	1.7986	1.7459	1.7145	1.7043	
0.75	1.5775	1.6047	1.6307	1.6542	1.6739	1.6889	1.6981	1.7013	
	0.5677	0.5877	0.6058	0.6214	0.6341	0.6436	0.6496	0.6516	
	0.3091	0.2952	0.2696	0.2325	0.1849	0.1286	0.0659	0.0000	
	0.9585	0.8792	0.8097	0.7516	0.7063	0.6741	0.6550	0.6486	
	2.1685	2.0566	1.9534	1.8633	1.7903	1.7367	1.7053	1.6933	
0.80	1.5820	1.6090	1.6350	1.6585	1.6784	1.6934	1.7028	1.7060	
	0.5609	0.5812	0.5994	0.6150	0.6277	0.6370	0.6428	0.6448	
	0.3081	0.2938	0.2679	0.2308	0.1834	0.1274	0.0653	0.0000	
	0.9538	0.8748	0.8053	0.7469	0.7012	0.6685	0.6490	0.6425	
	2.1621	2.0502	1.9465	1.8555	1.7812	1.7265	1.6933	1.6820	
0.85	1.5865	1.6134	1.6393	1.6629	1.6829	1.6982	1.7076	1.7109	
	0.5542	0.5748	0.5931	0.6087	0.6211	0.6303	0.6359	0.6378	
	0.3071	0.2925	0.2663	0.2291	0.1819	0.1263	0.0647	0.0000	
	0.9486	0.8701	0.8005	0.7418	0.6956	0.6624	0.6426	0.6359	
	2.1549	2.0431	1.9388	1.8468	1.7713	1.7154	1.6813	1.6697	
0.90	1.5911	1.6179	1.6437	1.6674	1.6876	1.7031	1.7128	1.7161	
	0.5475	0.5684	0.5868	0.6023	0.6145	0.6233	0.6288	0.6305	
	0.3061	0.2911	0.2647	0.2275	0.1804	0.1251	0.0641	0.0000	
	0.9431	0.8649	0.7952	0.7363	0.6895	0.6558	0.6356	0.6288	
	2.1469	2.0352	1.9304	1.8373	1.7605	1.7032	1.6681	1.6562	
0.95	1.5957	1.6224	1.6482	1.6721	1.6925	1.7083	1.7182	1.7216	
	0.5409	0.5620	0.5805	0.5958	0.6077	0.6162	0.6213	0.6230	
	0.3052	0.2898	0.2632	0.2258	0.1789	0.1240	0.0635	0.0000	
	0.9371	0.8592	0.7896	0.7303	0.6829	0.6486	0.6279	0.6209	
	2.1380	2.0264	1.9211	1.8269	1.7486	1.6899	1.6537	1.6413	
1.00	1.6004	1.6270	1.6529	1.6769	1.6977	1.7139	1.7241	1.7276	
	0.5342	0.5556	0.5741	0.5892	0.6007	0.6087	0.6135	0.6149	
	0.3043	0.2885	0.2616	0.2242	0.1774	0.1229	0.0629	0.0000	
	0.9306	0.8531	0.7834	0.7237	0.6757	0.6406	0.6193	0.6121	
	2.1283	2.0168	1.9108	1.8155	1.7355	1.6750	1.6376	1.6247	
F_x	0.7135	0.7226	0.7313	0.7390	0.7454	0.7501	0.7530	0.7539	

$$M_{\infty} = 3, \beta_{\kappa} = 25^{\circ}, \alpha = 15^{\circ}$$

ξ	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.00	1. 2116 0. 5650 0. 0000 1. 9764 3. 2839	1. 2144 0. 5663 0. 0755 1. 9531 3. 2562	1. 2231 0. 5703 0. 1495 1. 8852 3. 1749	1. 2373 0. 5709 0. 2202 1. 7785 3. 0455	1. 2567 0. 5860 0. 2862 1. 6418 2. 8764	1. 2809 0. 5973 0. 3457 1. 4855 2. 6781	1. 3094 0. 6106 0. 3972 1. 3208 2. 4624	1. 3416 0. 6256 0. 4391 1. 1578 2. 2413	1. 3765 0. 6419 0. 4691 1. 0053 2. 0262
0.05	1. 2192 0. 5484 0. 0000 1. 9756 3. 2829	1. 2225 0. 5505 0. 0765 1. 9526 3. 2571	1. 2325 0. 5554 0. 1512 1. 8855 3. 1816	1. 2490 0. 5636 0. 2224 1. 7804 3. 0611	1. 2715 0. 5748 0. 2882 1. 6455 2. 9033	1. 2995 0. 5887 0. 3470 1. 4911 2. 7177	1. 3326 0. 6051 0. 3971 1. 3281 2. 5151	1. 3698 0. 6236 0. 4368 1. 1665 2. 3067	1. 4105 0. 6438 0. 4642 1. 0149 2. 1034
0.10	1. 2267 0. 5332 0. 0000 1. 9731 3. 2800	1. 2301 0. 5351 0. 0773 1. 9505 3. 2553	1. 2405 0. 5405 0. 1526 1. 8845 3. 1826	1. 2575 0. 5495 0. 2242 1. 7808 3. 0667	1. 2808 0. 5618 0. 2902 1. 6477 2. 9146	1. 3098 0. 5771 0. 3488 1. 4953 2. 7353	1. 3438 0. 5951 0. 3983 1. 3342 2. 5392	1. 3821 0. 6152 0. 4372 1. 1741 2. 3368	1. 4238 0. 6370 0. 4635 1. 0235 2. 1386
0.15	1. 2340 0. 5182 0. 0000 1. 9693 3. 2754	1. 2376 0. 5202 0. 0779 1. 9470 3. 2516	1. 2481 0. 5261 0. 1538 1. 8821 3. 1815	1. 2655 0. 5358 0. 2258 1. 7799 3. 0694	1. 2891 0. 5491 0. 2919 1. 6487 2. 9222	1. 3186 0. 5656 0. 3504 1. 4984 2. 7484	1. 3531 0. 5849 0. 3995 1. 3391 2. 5577	1. 3918 0. 6064 0. 4376 1. 1806 2. 3603	1. 4338 0. 6295 0. 4630 1. 0311 2. 1661
0.20	1. 2413 0. 5038 0. 0000 1. 9641 3. 2693	1. 2449 0. 5059 0. 0785 1. 9422 3. 2462	1. 2555 0. 5122 0. 1549 1. 8783 3. 1785	1. 2730 0. 5226 0. 2272 1. 7778 3. 0700	1. 2969 0. 5367 0. 2935 1. 6485 2. 9273	1. 3265 0. 5543 0. 3518 1. 5003 2. 7584	1. 3612 0. 5748 0. 4005 1. 3430 2. 5727	1. 4000 0. 5976 0. 4379 1. 1862 2. 3796	1. 4420 0. 6220 0. 4625 1. 0378 2. 1889
0.25	1. 2484 0. 4898 0. 0000 1. 9578 3. 2617	1. 2520 0. 4920 0. 0791 1. 9362 3. 2394	1. 2638 0. 4937 0. 1560 1. 8734 3. 1738	1. 2803 0. 5097 0. 2286 1. 7745 3. 0688	1. 3042 0. 5248 0. 2950 1. 6473 2. 9303	1. 3339 0. 5434 0. 3532 1. 5012 2. 7661	1. 3686 0. 5650 0. 4014 1. 3459 2. 5849	1. 4073 0. 5890 0. 4382 1. 1908 2. 3959	1. 4492 0. 6145 0. 4619 1. 0436 2. 2082
0.30	1. 2555 0. 4762 0. 0000 1. 9503 3. 2528	1. 2591 0. 4786 0. 0796 1. 9292 3. 2313	1. 2698 0. 4857 0. 1570 1. 8674 3. 1678	1. 2874 0. 4973 0. 2300 1. 7702 3. 0660	1. 3113 0. 5131 0. 2964 1. 6450 2. 9315	1. 3409 0. 5327 0. 3545 1. 5011 2. 7717	1. 3754 0. 5555 0. 4023 1. 3480 2. 5949	1. 4139 0. 5806 0. 4384 1. 1946 2. 4097	1. 4555 0. 6072 0. 4612 1. 0487 2. 2248
0.35	1. 2625 0. 4630 0. 0000 1. 9418 3. 2427	1. 2661 0. 4655 0. 0802 1. 9210 3. 2218	1. 2768 0. 4730 0. 1580 1. 8604 3. 1604	1. 2943 0. 4852 0. 2313 1. 7649 3. 0617	1. 3181 0. 5019 0. 2978 1. 6418 2. 9312	1. 3475 0. 5225 0. 3557 1. 5002 2. 7756	1. 3818 0. 5463 0. 4031 1. 3492 2. 6029	1. 4200 0. 5725 0. 4386 1. 1976 2. 4213	1. 4613 0. 6001 0. 4605 1. 0531 2. 2391
0.40	1. 2694 0. 4501 0. 0000 1. 9324 3. 2314	1. 2730 0. 4528 0. 0807 1. 9120 3. 2112	1. 2837 0. 4606 0. 1590 1. 8525 3. 1517	1. 3010 0. 4735 0. 2326 1. 7587 3. 0561	1. 3247 0. 4910 0. 2992 1. 6378 2. 9294	1. 3539 0. 5125 0. 3569 1. 4984 2. 7779	1. 3879 0. 5374 0. 4039 1. 3496 2. 6092	1. 4258 0. 5647 0. 4387 1. 1999 2. 4311	1. 4666 0. 5933 0. 4597 1. 0567 2. 2515
0.45	1. 2763 0. 4376 0. 0000 1. 9220 3. 2190	1. 2799 0. 4403 0. 0812 1. 9020 3. 1995	1. 2904 0. 4486 0. 1600 1. 8437 3. 1419	1. 3077 0. 4621 0. 2338 1. 7517 3. 0493	1. 3311 0. 4803 0. 3006 1. 6330 2. 9262	1. 3600 0. 5028 0. 3582 1. 4959 2. 7788	1. 3937 0. 5288 0. 4047 1. 3493 2. 6140	1. 4312 0. 5571 0. 4388 1. 2016 2. 4393	1. 4715 0. 5868 0. 4590 1. 0598 2. 2621
0.50	1. 2832 0. 4253 0. 0000 1. 9108 3. 2056	1. 2867 0. 4282 0. 0818 1. 8912 3. 1867	1. 2972 0. 4368 0. 1609 1. 8341 3. 1310	1. 3142 0. 4509 0. 2351 1. 7439 3. 0413	1. 3374 0. 4700 0. 3019 1. 6273 2. 9219	1. 3660 0. 4934 0. 3594 1. 4926 2. 7784	1. 3993 0. 5204 0. 4055 1. 3484 2. 6175	1. 4363 0. 5498 0. 4389 1. 2026 2. 4460	1. 4762 0. 5804 0. 4582 1. 0623 2. 2713

$$M_{\infty} = 3, \xi_K = 25^\circ, \alpha = 15^\circ$$

ξ	θ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.55	1.2900	1.2935	1.3038	1.3207	1.3436	1.3718	1.4047	1.4412	1.4806
	0.4133	0.4163	0.4253	0.4400	0.4599	0.4843	0.5123	0.5427	0.5743
	0.0000	0.0823	0.1619	0.2364	0.3033	0.3605	0.4063	0.4390	0.4574
	1.8987	1.8796	1.8236	1.7353	1.6210	1.4887	1.3468	1.2030	1.0642
0.60	3.1911	3.1729	3.1191	3.0323	2.9164	2.7768	2.6196	2.4515	2.2791
	1.2969	1.3003	1.3105	1.3271	1.3497	1.3775	1.4099	1.4459	1.4848
	0.4015	0.4047	0.4141	0.4293	0.4500	0.4753	0.5043	0.5358	0.5684
	0.0000	0.0828	0.1629	0.2376	0.3046	0.3617	0.4070	0.4391	0.4566
0.65	1.8859	1.8671	1.8124	1.7259	1.6140	1.4842	1.3446	1.2029	1.0657
	3.1757	3.1581	3.1062	3.0222	2.9099	2.7741	2.6206	2.4556	2.2856
	1.3037	1.3071	1.3171	1.3335	1.3557	1.3831	1.4150	1.4505	1.4888
	0.3899	0.3932	0.4030	0.4189	0.4403	0.4666	0.4966	0.5291	0.5627
0.70	0.0000	0.0833	0.1639	0.2389	0.3060	0.3629	0.4078	0.4392	0.4559
	1.8722	1.8540	1.8005	1.7159	1.6062	1.4790	1.3418	1.2022	1.0666
	3.1593	3.1424	3.0922	3.0111	2.9023	2.7703	2.6205	2.4587	2.2910
	1.3106	1.3139	1.3237	1.3398	1.3617	1.3886	1.4200	1.4550	1.4927
0.75	0.3785	0.3819	0.3921	0.4086	0.4308	0.4580	0.4891	0.5226	0.5572
	0.0000	0.0838	0.1648	0.2402	0.3074	0.3642	0.4086	0.4393	0.4551
	1.8579	1.8400	1.7878	1.7051	1.5979	1.4732	1.3385	1.2011	1.0671
	3.1420	3.1257	3.0774	2.9990	2.8937	2.7655	2.6194	2.4607	2.2954
0.80	1.3174	1.3207	1.3304	1.3462	1.3676	1.3941	1.4249	1.4593	1.4965
	0.3672	0.3708	0.3813	0.3984	0.4215	0.4496	0.4817	0.5163	0.5518
	0.0000	0.0844	0.1658	0.2415	0.3087	0.3654	0.4094	0.4395	0.4544
	1.8428	1.8254	1.7744	1.6937	1.5889	1.4668	1.3346	1.1994	1.0672
0.85	3.1237	3.1080	3.0615	2.9860	2.8841	2.7597	2.6172	2.4617	2.2988
	1.3243	1.3275	1.3370	1.3525	1.3735	1.3995	1.4298	1.4636	1.5001
	0.3561	0.3598	0.3707	0.3884	0.4123	0.4414	0.4745	0.5101	0.5465
	0.0000	0.0849	0.1668	0.2428	0.3101	0.3666	0.4102	0.4397	0.4538
0.90	1.8269	1.8099	1.7603	1.6816	1.5792	1.4598	1.3302	1.1973	1.0668
	3.1045	3.0894	3.0447	2.9719	2.8735	2.7529	2.6141	2.4618	2.3013
	1.3313	1.3344	1.3437	1.3589	1.3794	1.4049	1.4346	1.4678	1.5038
	0.3450	0.3488	0.3601	0.3785	0.4032	0.4332	0.4674	0.5040	0.5414
0.95	0.0000	0.0854	0.1678	0.2440	0.3115	0.3678	0.4111	0.4399	0.4531
	1.8103	1.7938	1.7455	1.6688	1.5689	1.4522	1.3253	1.1946	1.0660
	3.0843	3.0698	3.0270	2.9570	2.8620	2.7451	2.6100	2.4610	2.3029
	1.3383	1.3414	1.3505	1.3653	1.3854	1.4103	1.4393	1.4719	1.5072
1.00	0.3340	0.3379	0.3496	0.3686	0.3941	0.4252	0.4603	0.4980	0.5364
	0.0000	0.0860	0.1688	0.2454	0.3129	0.3691	0.4119	0.4401	0.4525
	1.7929	1.7769	1.7299	1.6553	1.5580	1.4440	1.3198	1.1916	1.0648
	3.0631	3.0493	3.0082	2.9410	2.8495	2.7364	2.6050	2.4592	2.3037
F _x	1.3455	1.3484	1.3573	1.3717	1.3914	1.4157	1.4441	1.4760	1.5108
	0.3230	0.3271	0.3392	0.3588	0.3852	0.4172	0.4534	0.4922	0.5315
	0.0000	0.0865	0.1698	0.2467	0.3143	0.3704	0.4128	0.4404	0.4520
	1.7747	1.7592	1.7136	1.6411	1.5464	1.4353	1.3138	1.1880	1.0632
F _x	3.0409	3.0277	2.9884	2.9240	2.8360	2.7267	2.5990	2.4566	2.3036
	1.3527	1.3556	1.3642	1.3782	1.3974	1.4211	1.4489	1.4801	1.5143
	0.3120	0.3162	0.3287	0.3400	0.3762	0.4092	0.4465	0.4863	0.5267
	0.0000	0.0871	0.1708	0.2480	0.3158	0.3717	0.4137	0.4407	0.4515
F _x	1.7557	1.7402	1.6965	1.6261	1.5341	1.4259	1.3072	1.1840	1.0611
	3.0175	3.0050	2.9675	2.9060	2.8215	2.7160	2.5921	2.4530	2.3026
	0.6636	0.6645	0.6674	0.6723	0.6792	0.6882	0.6901	0.7121	0.7268

$$M_{\infty} = 3, \beta_{\infty} = 25^{\circ}, \alpha = 15^{\circ}$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.00	1.4133	1.4508	1.4875	1.5217	1.5509	1.5734	1.5865	1.6861	1.5904
	0.6590	0.6765	0.6036	0.7096	0.7232	0.7337	0.7398	0.7862	0.7416
	0.4854	0.4841	0.4616	0.4121	0.3346	0.2287	0.1121	0.0000	0.0000
	0.8701	0.7573	0.6703	0.6102	0.5745	0.5569	0.5500	0.5482	0.5482
	1.8276	1.6551	1.6168	1.4184	1.3587	1.3288	1.3170	1.5114	1.3139
0.05	1.4535	1.4979	1.5421	1.5844	1.6230	1.6562	1.6800	1.6889	
	0.6650	0.6667	0.7084	0.7294	0.7489	0.7656	0.7769	0.7803	
	0.4773	0.4730	0.4480	0.3982	0.3228	0.2265	0.1181	0.0000	
	0.8800	0.7669	0.6786	0.6167	0.5788	0.5589	0.5504	0.5480	
	1.9155	1.7528	1.6245	1.5377	1.4941	1.4879	1.5023	1.5111	
0.10	1.4678	1.5128	1.5573	1.5993	1.6363	1.6658	1.6847	1.6914	
	0.6598	0.6829	0.7056	0.7272	0.7469	0.7626	0.7725	0.7753	
	0.4754	0.4703	0.4451	0.3963	0.3234	0.2294	0.1200	0.0000	
	0.8890	0.7755	0.6862	0.6225	0.5825	0.5606	0.5506	0.5476	
	1.9544	1.7939	1.6657	1.5767	1.5279	1.5107	1.5095	1.5103	
0.15	1.4780	1.5230	1.5672	1.6083	1.6438	1.6711	1.6879	1.6937	
	0.6535	0.6776	0.7009	0.7229	0.7425	0.7581	0.7678	0.7708	
	0.4740	0.4681	0.4426	0.3943	0.3224	0.2291	0.1196	0.0000	
	0.8970	0.7832	0.6930	0.6277	0.5857	0.5619	0.5505	0.5470	
	1.9846	1.8249	1.6955	1.6027	1.5475	1.5213	1.5117	1.5091	
0.20	1.4861	1.5309	1.5745	1.6149	1.6491	1.6749	1.6906	1.6959	
	0.6470	0.6718	0.6957	0.7179	0.7376	0.7532	0.7633	0.7665	
	0.4725	0.4658	0.4399	0.3917	0.3202	0.2274	0.1184	0.0000	
	0.9042	0.7903	0.6991	0.6323	0.5884	0.5628	0.5501	0.5462	
	2.0095	1.8501	1.7188	1.6220	1.5606	1.5274	1.5122	1.5074	
0.25	1.4929	1.5373	1.5805	1.6201	1.6534	1.6783	1.6932	1.6983	
	0.6405	0.6661	0.6904	0.7128	0.7326	0.7484	0.7588	0.7622	
	0.4709	0.4634	0.4369	0.3885	0.3173	0.2250	0.1169	0.0000	
	0.9107	0.7966	0.7046	0.6363	0.5906	0.5634	0.5495	0.5451	
	2.0305	1.8711	1.7378	1.6370	1.5701	1.5311	1.5117	1.5054	
0.30	1.4989	1.5429	1.5855	1.6245	1.6571	1.6813	1.6957	1.7007	
	0.6341	0.6604	0.6852	0.7078	0.7277	0.7438	0.7544	0.7580	
	0.4693	0.4608	0.4336	0.3850	0.3140	0.2223	0.1154	0.0000	
	0.9164	0.8022	0.7095	0.6398	0.5924	0.5636	0.5486	0.5439	
	2.0486	1.8890	1.7538	1.6491	1.5772	1.5333	1.5104	1.5029	
0.35	1.5043	1.5477	1.5899	1.6284	1.6605	1.6842	1.6983	1.7031	
	0.6280	0.6549	0.6801	0.7029	0.7230	0.7392	0.7501	0.7537	
	0.4676	0.4582	0.4302	0.3813	0.3105	0.2195	0.1137	0.0000	
	0.9214	0.8073	0.7138	0.6428	0.5938	0.5635	0.5475	0.5424	
	2.0643	1.9045	1.7673	1.6590	1.5825	1.5343	1.5085	1.5000	
0.40	1.5091	1.5521	1.5938	1.6319	1.6636	1.6870	1.7009	1.7057	
	0.6221	0.6497	0.6753	0.6983	0.7184	0.7347	0.7457	0.7495	
	0.4658	0.4554	0.4267	0.3775	0.3069	0.2167	0.1122	0.0000	
	0.9259	0.8118	0.7176	0.6454	0.5948	0.5630	0.5461	0.5407	
	2.0779	1.9179	1.7788	1.6672	1.5865	1.5343	1.5060	1.4966	
0.45	1.5136	1.5561	1.5974	1.6351	1.6666	1.6898	1.7036	1.7083	
	0.6164	0.6446	0.6706	0.6938	0.7140	0.7303	0.7414	0.7451	
	0.4641	0.4526	0.4231	0.3736	0.3032	0.2139	0.1106	0.0000	
	0.9297	0.8157	0.7210	0.6475	0.5955	0.5623	0.5445	0.5387	
	2.0898	1.9296	1.7888	1.6740	1.5894	1.5336	1.5029	1.4927	
0.50	1.5177	1.5598	1.6007	1.6382	1.6695	1.6926	1.7064	1.7111	
	0.6109	0.6398	0.6662	0.6895	0.7097	0.7260	0.7370	0.7408	
	0.4623	0.4498	0.4195	0.3697	0.2996	0.2111	0.1091	0.0000	
	0.9331	0.8192	0.7240	0.6493	0.5958	0.5613	0.5426	0.5365	
	2.1002	1.9398	1.7973	1.6795	1.5913	1.5322	1.4993	1.4884	

$$M_{\infty} = 3, \beta_{\infty} = 25^{\circ}, \alpha = 15^{\circ}$$

ξ	θ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.55	1.5216 0.6056 0.4605 0.9359 2.1092	1.5633 0.6352 0.4471 0.8223 1.9487	1.6038 0.6620 0.4160 0.7265 1.8047	1.6411 0.6854 0.3658 0.6508 1.6841	1.6723 0.7055 0.2960 0.5958 1.5923	1.6955 0.7217 0.2083 0.5600 1.5301	1.7093 0.7326 0.1076 0.5404 1.4951	1.7140 0.7364 0.0000 0.5341 1.4835	
0.60	1.5253 0.6006 0.4587 0.9383 2.1170	1.5665 0.6308 0.4143 0.8249 1.9565	1.6067 0.6579 0.4125 0.7287 1.8110	1.6439 0.6814 0.3620 0.6519 1.6877	1.6751 0.7014 0.2925 0.5956 1.5926	1.6984 0.7174 0.2057 0.5584 1.5273	1.7123 0.7282 0.1062 0.5380 1.4903	1.7170 0.7319 0.0000 0.5313 1.4780	
0.65	1.5289 0.5957 0.4570 0.9403 2.1237	1.5696 0.6265 0.4416 0.8272 1.9632	1.6095 0.6540 0.4090 0.7305 1.8164	1.6466 0.6776 0.3582 0.6526 1.6905	1.6779 0.6974 0.2890 0.5950 1.5922	1.7013 0.7130 0.2030 0.5565 1.5239	1.7154 0.7236 0.1048 0.5352 1.4848	1.7202 0.7273 0.0000 0.5282 1.4719	
0.70	1.5322 0.5910 0.4552 0.9418 2.1294	1.5726 0.6224 0.4389 0.8290 1.9690	1.6122 0.6503 0.4056 0.7320 1.8210	1.6492 0.6739 0.3545 0.6532 1.6926	1.6807 0.6934 0.2856 0.5941 1.5912	1.7044 0.7087 0.2005 0.5543 1.5198	1.7186 0.7190 0.1034 0.5321 1.4787	1.7235 0.7225 0.0000 0.5248 1.4651	
0.75	1.5355 0.5864 0.4536 0.9429 2.1342	1.5754 0.6185 0.4363 0.8306 1.9739	1.6149 0.6467 0.4023 0.7332 1.8248	1.6518 0.6702 0.3509 0.6534 1.6941	1.6836 0.6894 0.2822 0.5929 1.5894	1.7076 0.7043 0.1979 0.5518 1.5150	1.7221 0.7142 0.1020 0.5286 1.4719	1.7271 0.7175 0.0000 0.5210 1.4575	
0.80	1.5387 0.5820 0.4520 0.9437 2.1381	1.5782 0.6147 0.4338 0.8318 1.9780	1.6174 0.6422 0.3990 0.7342 1.8278	1.6544 0.6667 0.3473 0.6533 1.6949	1.6864 0.6855 0.2789 0.5915 1.5871	1.7109 0.6997 0.1955 0.5489 1.5095	1.7258 0.7091 0.1007 0.5247 1.4642	1.7309 0.7124 0.0000 0.5168 1.4491	
0.85	1.5417 0.5777 0.4504 0.9441 2.1411	1.5809 0.6110 0.4313 0.8327 1.9814	1.6199 0.6398 0.3958 0.7348 1.8303	1.6570 0.6632 0.3438 0.6530 1.6951	1.6894 0.6815 0.2757 0.5897 1.5841	1.7144 0.6951 0.1930 0.5456 1.5032	1.7298 0.7039 0.0994 0.5203 1.4555	1.7351 0.7069 0.0000 0.5120 1.4395	
0.90	1.5448 0.5735 0.4489 0.9441 2.1434	1.5835 0.6074 0.4289 0.8332 1.9841	1.6223 0.6365 0.3927 0.7352 1.8321	1.6595 0.6598 0.3404 0.6525 1.6948	1.6924 0.6775 0.2725 0.5876 1.5805	1.7181 0.6902 0.1906 0.5419 1.4960	1.7341 0.6983 0.0981 0.5154 1.4455	1.7396 0.7010 0.0000 0.5066 1.4286	
0.95	1.5477 0.5695 0.4474 0.9438 2.1450	1.5861 0.6039 0.4265 0.8335 1.9861	1.6247 0.6333 0.3896 0.7353 1.8334	1.6621 0.6565 0.3370 0.6517 1.6939	1.6952 0.6735 0.2693 0.5852 1.5762	1.7221 0.6851 0.1881 0.5376 1.4877	1.7389 0.6922 0.0968 0.5096 1.4340	1.7448 0.6945 0.0000 0.5003 1.4158	
1.00	1.5507 0.5655 0.4460 0.9432 2.1458	1.5886 0.6005 0.4243 0.8335 1.9875	1.6271 0.6302 0.3867 0.7352 1.8342	1.6647 0.6531 0.3337 0.6506 1.6925	1.6988 0.6694 0.2661 0.5825 1.5712	1.7265 0.6796 0.1857 0.5327 1.4782	1.7444 0.6854 0.0955 0.5029 1.4204	1.7507 0.6871 0.0000 0.4928 1.4006	
F_x	0.7429	0.7596	0.7762	0.7911	0.8034	0.8120	0.8168	0.8183	

$$M_{\infty} = 3, \beta_K = 25^\circ, \alpha = 20^\circ$$

ξ	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.00	1.0880	1.0917	1.1030	1.1214	1.1467	1.1784	1.2157	1.2578	1.3040
	0.5073	0.5091	0.5143	0.5229	0.5347	0.5495	0.5669	0.5865	0.6081
	0.0000	0.0972	0.1925	0.2841	0.3702	0.4490	0.5187	0.5777	0.6240
	2.2900	2.2560	2.1573	2.0036	1.8091	1.5903	1.3641	1.1453	0.9452
	3.5161	3.4788	3.3694	3.1961	2.9713	2.7099	2.4287	2.1435	1.8688
0.05	1.0962	1.1003	1.1127	1.1330	1.1609	1.1957	1.2368	1.2832	1.3341
	0.4900	0.4921	0.4983	0.5086	0.5228	0.5405	0.5615	0.5853	0.6114
	0.0000	0.0978	0.1934	0.2849	0.3702	0.4473	0.5143	0.5696	0.6112
	2.2890	2.2556	2.1586	2.0075	1.8161	1.6007	1.3777	1.1614	0.9631
	3.5151	3.4799	3.3769	3.2134	3.0005	2.7522	2.4837	2.2100	1.9448
0.10	1.1042	1.1085	1.1214	1.1425	1.1713	1.2073	1.2497	1.2974	1.3497
	0.4733	0.4757	0.4827	0.4942	0.5100	0.5299	0.5534	0.5800	0.6089
	0.0000	0.0984	0.1945	0.2861	0.3711	0.4473	0.5129	0.5660	0.6050
	2.2862	2.2534	2.1582	2.0097	1.8215	1.6095	1.3896	1.1760	0.9795
	3.5120	3.4782	3.3794	3.2222	3.0173	2.7778	2.5182	2.2528	1.9948
0.15	1.1120	1.1165	1.1296	1.1511	1.1806	1.2172	1.2602	1.3085	1.3613
	0.4573	0.4599	0.4676	0.4802	0.4975	0.5193	0.5450	0.5740	0.6054
	0.0000	0.0990	0.1956	0.2875	0.3723	0.4479	0.5123	0.5639	0.6008
	2.2817	2.2495	2.1561	2.0103	1.8254	1.6168	1.4002	1.1892	0.9945
	3.5071	3.4746	3.3795	3.2281	3.0305	2.7990	2.5475	2.2896	2.0379
0.20	1.1198	1.1243	1.1376	1.1594	1.1891	1.2260	1.2692	1.3177	1.3706
	0.4419	0.4447	0.4529	0.4666	0.4854	0.5089	0.5366	0.5678	0.6015
	0.0000	0.0997	0.1968	0.2890	0.3737	0.4488	0.5124	0.5625	0.5976
	2.2758	2.2442	2.1525	2.0095	1.8278	1.6228	1.4094	1.2012	1.0085
	3.5006	3.4693	3.3777	3.2317	3.0409	2.8170	2.5731	2.3221	2.0762
0.25	1.1274	1.1319	1.1453	1.1672	1.1970	1.2340	1.2772	1.3257	1.3783
	0.4200	0.4299	0.4388	0.4535	0.4736	0.4988	0.5284	0.5617	0.5975
	0.0000	0.1004	0.1981	0.2906	0.3753	0.4501	0.5128	0.5617	0.5952
	2.2684	2.2375	2.1477	2.0073	1.8291	1.6276	1.4176	1.2121	1.0213
	3.4925	3.4624	3.3742	3.2334	3.0492	2.8324	2.5957	2.3513	2.1107
0.30	1.1350	1.1395	1.1529	1.1748	1.2046	1.2415	1.2845	1.3326	1.3849
	0.4125	0.4156	0.4251	0.4408	0.4622	0.4890	0.5205	0.5557	0.5935
	0.0000	0.1011	0.1994	0.2923	0.3771	0.4515	0.5134	0.5612	0.5932
	2.2598	2.2295	2.1415	2.0040	1.8292	1.6312	1.4246	1.2220	1.0333
	3.4830	3.4541	3.3691	3.2334	3.0554	2.8457	2.6158	2.3776	2.1420
0.35	1.1425	1.1469	1.1603	1.1821	1.2118	1.2485	1.2912	1.3389	1.3905
	0.3984	0.4018	0.4119	0.4284	0.4512	0.4795	0.5128	0.5499	0.5895
	0.0000	0.1019	0.2008	0.2941	0.3790	0.4531	0.5143	0.5610	0.5916
	2.2501	2.2204	2.1343	1.9996	1.8282	1.6339	1.4307	1.2310	1.0444
	3.4723	3.4444	3.3626	3.2319	3.0600	2.8569	2.6337	2.4015	2.1707
0.40	1.1499	1.1543	1.1676	1.1893	1.2188	1.2551	1.2974	1.3445	1.3955
	0.3847	0.3883	0.3989	0.4165	0.4405	0.4704	0.5053	0.5442	0.5856
	0.0000	0.1026	0.2023	0.2959	0.3809	0.4548	0.5154	0.5610	0.5902
	2.2392	2.2102	2.1259	1.9941	1.8262	1.6356	1.4359	1.2391	1.0547
	3.4603	3.4335	3.3548	3.2289	3.0630	2.8665	2.6497	2.4233	2.1970
0.45	1.1572	1.1617	1.1748	1.1963	1.2255	1.2614	1.3032	1.3497	1.4000
	0.3714	0.3751	0.3864	0.4048	0.4301	0.4615	0.4981	0.5387	0.5818
	0.0000	0.1034	0.2037	0.2979	0.3830	0.4567	0.5166	0.5612	0.5890
	2.2273	2.1990	2.1166	1.9877	1.8233	1.6365	1.4403	1.2465	1.0643
	3.4471	3.4214	3.3458	3.2245	3.0645	2.8744	2.6640	2.4431	2.2212
0.50	1.1646	1.1689	1.1820	1.2032	1.2320	1.2675	1.3086	1.3545	1.4039
	0.3583	0.3623	0.3741	0.3935	0.4200	0.4528	0.4911	0.5335	0.5782
	0.0000	0.1043	0.2052	0.2999	0.3852	0.4586	0.5180	0.5616	0.5880
	2.2144	2.1857	2.1063	1.9804	1.8196	1.6365	1.4439	1.2532	1.0732
	3.4329	3.4082	3.3356	3.2190	3.0648	2.8809	2.6766	2.4612	2.2435

$$M_{\infty} = 3, \beta_{\infty} = 25^{\circ}, \alpha = 20^{\circ}$$

ξ	θ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.55	1.1719 0.3455 0.0000 2.2006 3.4175	1.1762 0.3497 0.1051 2.1736 3.3939	1.1891 0.3621 0.2068 2.0951 3.3242	1.2100 0.3824 0.3019 -1.9722 3.2122	1.2384 0.4101 0.3874 1.8150 3.0637	1.2733 0.4444 0.4606 1.6358 2.8861	1.3138 0.4843 0.5194 1.4468 2.6878	1.3589 0.5283 0.5620 1.2591 2.4777	1.4075 0.5746 0.5871 1.0815 2.2641
0.60	1.1792 0.3330 0.0000 2.1858 3.4012	1.1834 0.3374 0.1059 2.1596 3.3786	1.1961 0.3503 0.2084 2.0831 3.3119	1.2167 0.3715 0.3040 1.9631 3.2044	1.2446 0.4005 0.3896 1.8096 3.0615	1.2789 0.4363 0.4627 1.6343 2.8899	1.3188 0.4778 0.5210 1.4490 2.6977	1.3630 0.5234 0.5626 1.2645 2.4927	1.4108 0.5713 0.5863 1.0891 2.2831
0.65	1.1864 0.3207 0.0000 2.1702 3.3838	1.1906 0.3252 0.1068 2.1447 3.3622	1.2031 0.3387 0.2100 2.0702 3.2984	1.2233 0.3609 0.3061 1.9533 3.1955	1.2507 0.3910 0.3920 1.8035 3.0581	1.2844 0.4283 0.4649 1.6321 2.8926	1.3235 0.4714 0.5226 1.4506 2.7062	1.3669 0.5186 0.5632 1.2692 2.5064	1.4138 0.5680 0.5856 1.0963 2.3007
0.70	1.1938 0.3085 0.0000 2.1538 3.3655	1.1979 0.3133 0.1077 2.1289 3.3449	1.2101 0.3274 0.2116 2.0565 3.2840	1.2299 0.3504 0.3083 1.9427 3.1855	1.2568 0.3818 0.3944 1.7966 3.0537	1.2898 0.4205 0.4671 1.6292 2.8942	1.3280 0.4651 0.5242 1.4515 2.7136	1.3706 0.5140 0.5639 1.2734 2.5189	1.4165 0.5649 0.5850 1.1029 2.3171
0.75	1.2011 0.2965 0.0000 2.1365 3.3461	1.2051 0.3015 0.1086 2.1123 3.3265	1.2170 0.3162 0.2133 2.0420 3.2685	1.2364 0.3402 0.3105 1.9313 3.1745	1.2627 0.3727 0.3968 1.7891 3.0481	1.2950 0.4128 0.4694 1.6257 2.8946	1.3324 0.4590 0.5259 1.4519 2.7198	1.3741 0.5095 0.5647 1.2770 2.5302	1.4191 0.5619 0.5845 1.1090 2.3322
0.80	1.2085 0.2847 0.0000 2.1183 3.3258	1.2124 0.2898 0.1095 2.0949 3.3072	1.2240 0.3051 0.2149 2.0266 3.2521	1.2430 0.3300 0.3127 1.9191 3.1624	1.2686 0.3538 0.3993 1.7808 3.0416	1.3001 0.4053 0.4717 1.6216 2.8940	1.3367 0.4531 0.5277 1.4516 2.7249	1.3774 0.5051 0.5655 1.2801 2.5403	1.4215 0.5589 0.5840 1.1147 2.3462
0.85	1.2159 0.2729 0.0000 2.0993 3.3045	1.2197 0.2783 0.1104 2.0767 3.2869	1.2311 0.2941 0.2166 2.0105 3.2346	1.2495 0.3200 0.3150 1.9062 3.1494	1.2745 0.3550 0.4018 1.7718 3.0340	1.3052 0.3980 0.4741 1.6168 2.8923	1.3409 0.4473 0.5295 1.4508 2.7290	1.3806 0.5008 0.5664 1.2827 2.5494	1.4237 0.5561 0.5837 1.1199 2.3591
0.90	1.2234 0.2612 0.0000 2.0795 3.2821	1.2271 0.2668 0.1113 2.0576 3.2655	1.2381 0.2832 0.2184 1.9935 3.2161	1.2561 0.3100 0.3173 1.8925 3.1353	1.2803 0.3463 0.4043 1.7621 3.0254	1.3102 0.3906 0.4765 1.6113 2.8896	1.3449 0.4415 0.5314 1.4494 2.7320	1.3837 0.4966 0.5674 1.2848 2.5575	1.4258 0.5534 0.5834 1.1247 2.3711
0.95	1.2310 0.2496 0.0000 2.0587 3.2587	1.2346 0.2553 0.1122 2.0376 3.2431	1.2453 0.2724 0.2201 1.9757 3.1965	1.2626 0.3001 0.3196 1.8781 3.1201	1.2862 0.3376 0.4069 1.7517 3.0157	1.3152 0.3835 0.4789 1.6052 2.8858	1.3489 0.4359 0.5333 1.4475 2.7341	1.3867 0.4925 0.5683 1.2865 2.5646	1.4279 0.5508 0.5831 1.1291 2.3821
1.00	1.2387 0.2380 0.0000 2.0371 3.2342	1.2422 0.2439 0.1132 2.0167 3.2195	1.2525 0.2616 0.2219 1.9571 3.1758	1.2693 0.2903 0.3219 1.8628 3.1039	1.2920 0.3291 0.4095 1.7406 3.0049	1.3201 0.3764 0.4814 1.5985 2.8811	1.3529 0.4303 0.5352 1.4450 2.7351	1.3896 0.4885 0.5694 1.2876 2.5707	1.4298 0.5482 0.5829 1.1330 2.3922
F_x	0.6671	0.6684	0.6723	0.6789	0.6884	0.7009	0.7167	0.7359	0.7584

$$M_{\infty} = 3, \beta_{\kappa} = 25^{\circ}, \alpha = 20^{\circ}$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.50	1.3530 0.6309 0.6558 0.7717 1.6167	1.4038 0.6546 0.6701 0.6292 1.3974	1.4549 0.6784 0.6604 0.5213 1.2216	1.5031 0.7009 0.6162 0.4532 1.1054	1.5476 0.7217 0.5113 0.4277 1.0607	1.5789 0.7363 0.3712 0.4301 1.0649	1.6039 0.7479 0.1609 0.4381 1.0790	1.7239 0.8039 0.0000 0.4420 1.2990	1.6087 0.7501 0.0000 0.4420 1.0859
0.05	1.3884 0.6390 0.6374 0.7903 1.7000	1.4449 0.6674 0.6452 0.6175 1.4857	1.5028 0.6958 0.6303 0.5381 1.3133	1.5593 0.7233 0.5784 0.4672 1.1998	1.6124 0.7504 0.4796 0.4375 1.1623	1.6539 0.7754 0.3244 0.4352 1.1770	1.6981 0.7973 0.1671 0.4394 1.2425	1.7233 0.8050 0.0000 0.4421 1.2990	
0.10	1.4053 0.6395 0.6281 0.8075 1.7555	1.4634 0.6705 0.6329 0.6644 1.5449	1.5225 0.7009 0.6148 0.5536 1.3740	1.5805 0.7301 0.5632 0.4799 1.2598	1.6331 0.7589 0.4651 0.4461 1.2180	1.6758 0.7864 0.3236 0.4394 1.2352	1.7088 0.8037 0.1719 0.4408 1.2766	1.7223 0.8071 0.0000 0.4422 1.2993	
0.15	1.4174 0.6384 0.6215 0.8234 1.8033	1.4759 0.6715 0.6238 0.6802 1.5954	1.5352 0.7033 0.6038 0.5681 1.4248	1.5931 0.7333 0.5523 0.4918 1.3075	1.6447 0.7628 0.4572 0.4540 1.2594	1.6845 0.7899 0.3226 0.4434 1.2665	1.7112 0.8059 0.1712 0.4422 1.2893	1.7211 0.8093 0.0000 0.4425 1.2999	
0.20	1.4267 0.6366 0.6163 0.8383 1.8457	1.4850 0.6714 0.6165 0.6951 1.6399	1.5439 0.7044 0.5949 0.5818 1.4688	1.6013 0.7348 0.5433 0.5029 1.3472	1.6514 0.7642 0.4506 0.4614 1.2908	1.6886 0.7909 0.3198 0.4471 1.2861	1.7118 0.8070 0.1688 0.4435 1.2961	1.7201 0.8111 0.0000 0.4428 1.3005	
0.25	1.4340 0.6344 0.6119 0.8523 1.8839	1.4918 0.6708 0.6102 0.7091 1.6797	1.5502 0.7043 0.5870 0.5947 1.5075	1.6067 0.7354 0.5351 0.5133 1.3811	1.6556 0.7645 0.4441 0.4682 1.3158	1.6908 0.7909 0.3159 0.4505 1.2999	1.7119 0.8076 0.1660 0.4446 1.3004	1.7194 0.8124 0.0000 0.4430 1.3011	
0.30	1.4401 0.6322 0.6082 0.8653 1.9186	1.4972 0.6699 0.6045 0.7223 1.7157	1.5548 0.7047 0.5797 0.6069 1.5421	1.6105 0.7355 0.5272 0.5232 1.4106	1.6583 0.7643 0.4375 0.4745 1.3364	1.6921 0.7906 0.3113 0.4535 1.3105	1.7120 0.8078 0.1630 0.4455 1.3035	1.7190 0.8132 0.0000 0.4432 1.3015	
0.35	1.4451 0.6298 0.6048 0.8776 1.9504	1.5015 0.6689 0.5993 0.7347 1.7485	1.5583 0.7045 0.5727 0.6185 1.5733	1.6131 0.7355 0.5195 0.5325 1.4367	1.6601 0.7640 0.4307 0.4805 1.3539	1.6931 0.7900 0.3065 0.4562 1.3189	1.7122 0.8077 0.1600 0.4463 1.3058	1.7188 0.8134 0.0000 0.4433 1.3017	
0.40	1.4493 0.6275 0.6017 0.8892 1.9795	1.5049 0.6678 0.5943 0.7465 1.7785	1.5609 0.7043 0.5661 0.6295 1.6017	1.6150 0.7355 0.5120 0.5414 1.4603	1.6614 0.7636 0.4240 0.4860 1.3693	1.6939 0.7894 0.3017 0.4587 1.3259	1.7125 0.8073 0.1572 0.4469 1.3074	1.7189 0.8133 0.0000 0.4433 1.3016	
0.45	1.4529 0.6253 0.5988 0.9000 2.0064	1.5077 0.6668 0.5896 0.7577 1.8062	1.5628 0.7040 0.5596 0.6400 1.6277	1.6163 0.7354 0.5047 0.5498 1.4816	1.6623 0.7632 0.4173 0.4912 1.3830	1.6946 0.7886 0.2969 0.4609 1.3318	1.7130 0.8066 0.1545 0.4472 1.3085	1.7192 0.8127 0.0000 0.4430 1.3011	
0.50	1.4561 0.6231 0.5961 0.9103 2.0313	1.5099 0.6658 0.5851 0.7684 1.8317	1.5643 0.7037 0.5534 0.6499 1.6518	1.6172 0.7354 0.4975 0.5578 1.5013	1.6630 0.7628 0.4107 0.4962 1.3953	1.6953 0.7877 0.2921 0.4628 1.3363	1.7137 0.8056 0.1519 0.4474 1.3090	1.7198 0.8118 0.0000 0.4426 1.3002	

$$M_{\infty} = 3, \beta_{\kappa} = 25^{\circ}, \alpha = 20^{\circ}$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.55	1.4588	1.5118	1.5654	1.6177	1.6635	1.6961	1.7145	1.7207	
	0.6210	0.6648	0.7036	0.7355	0.7624	0.7867	0.8044	0.8106	
	0.5936	0.5808	0.5473	0.4904	0.4042	0.2874	0.1494	0.0000	
	0.9199	0.7784	0.6594	0.5655	0.5008	0.4645	0.4473	0.4420	
	2.0544	1.8555	1.6741	1.5195	1.4066	1.3410	1.3091	1.2989	
0.60	1.4612	1.5133	1.5662	1.6181	1.6639	1.6968	1.7156	1.7218	
	0.6190	0.6639	0.7034	0.7356	0.7621	0.7856	0.8029	0.8091	
	0.5117	0.5766	0.5415	0.4836	0.3979	0.2828	0.1469	0.0000	
	0.9291	0.7880	0.6085	0.5128	0.5052	0.4059	0.4170	0.4412	
	2.0759	1.8777	1.6949	1.5365	1.4171	1.3447	1.3085	1.2971	
0.65	1.4633	1.5146	1.5668	1.6182	1.6642	1.6977	1.7168	1.7232	
	0.6171	0.6631	0.7034	0.7359	0.7619	0.7845	0.8012	0.8073	
	0.5889	0.5726	0.5358	0.4770	0.3916	0.2783	0.1446	0.0000	
	0.9377	0.7972	0.6772	0.5799	0.5095	0.4672	0.4464	0.4400	
	2.0960	1.8984	1.7144	1.5524	1.4268	1.3477	1.3074	1.2947	
0.70	1.4651	1.5156	1.5671	1.6182	1.6644	1.6987	1.7183	1.7248	
	0.6153	0.6624	0.7034	0.7362	0.7617	0.7832	0.7993	0.8051	
	0.5867	0.5687	0.5304	0.4705	0.3855	0.2739	0.1423	0.0000	
	0.9458	0.8059	0.6855	0.5867	0.5135	0.4682	0.4456	0.4386	
	2.1147	1.9178	1.7327	1.5675	1.4359	1.3502	1.3057	1.2917	
0.75	1.4668	1.5164	1.5673	1.6180	1.6645	1.6997	1.7201	1.7268	
	0.6136	0.6618	0.7035	0.7366	0.7615	0.7819	0.7971	0.8026	
	0.5817	0.5650	0.5251	0.4612	0.3795	0.2695	0.1401	0.0000	
	0.9535	0.8143	0.6935	0.5933	0.5174	0.4690	0.4444	0.4368	
	2.1322	1.9361	1.7501	1.5818	1.4446	1.3522	1.3033	1.2879	
0.80	1.4682	1.5171	1.5673	1.6177	1.6646	1.7008	1.7221	1.7292	
	0.6120	0.6612	0.7037	0.7370	0.7615	0.7805	0.7945	0.7997	
	0.5827	0.5614	0.5200	0.4581	0.3737	0.2652	0.1378	0.0000	
	0.9608	0.8222	0.7012	0.5996	0.5212	0.4697	0.4428	0.4345	
	2.1486	1.9533	1.7665	1.5954	1.4529	1.3538	1.3001	1.2831	
0.85	1.4696	1.5176	1.5672	1.6173	1.6645	1.7020	1.7245	1.7320	
	0.6105	0.6607	0.7040	0.7376	0.7615	0.7790	0.7917	0.7964	
	0.5808	0.5579	0.5150	0.4522	0.3679	0.2609	0.1356	0.0000	
	0.9677	0.8299	0.7087	0.6059	0.5249	0.4701	0.4408	0.4317	
	2.1640	1.9696	1.7821	1.6085	1.4609	1.3549	1.2959	1.2772	
0.90	1.4708	1.5180	1.5670	1.6168	1.6644	1.7033	1.7273	1.7354	
	0.6090	0.6603	0.7043	0.7382	0.7616	0.7774	0.7883	0.7924	
	0.5791	0.5546	0.5103	0.4465	0.3622	0.2566	0.1333	0.0000	
	0.9743	0.8372	0.7158	0.6119	0.5285	0.4703	0.4383	0.4282	
	2.1784	1.9850	1.7970	1.6212	1.4687	1.3555	1.2906	1.2698	
0.95	1.4719	1.5183	1.5667	1.6162	1.6642	1.7048	1.7308	1.7397	
	0.6076	0.6600	0.7046	0.7389	0.7618	0.7758	0.7845	0.7875	
	0.5774	0.5514	0.5057	0.4409	0.3566	0.2522	0.1310	0.0000	
	0.9804	0.8442	0.7228	0.6179	0.5322	0.4704	0.4350	0.4236	
	2.1919	1.9996	1.8113	1.6334	1.4764	1.3558	1.2838	1.2601	
1.00	1.4729	1.5185	1.5663	1.6155	1.6639	1.7062	1.7350	1.7453	
	0.6063	0.6597	0.7051	0.7397	0.7621	0.7741	0.7798	0.7812	
	0.5758	0.5483	0.5013	0.4355	0.3511	0.2478	0.1285	0.0000	
	0.9863	0.8509	0.7295	0.6237	0.5359	0.4703	0.4307	0.4174	
	2.2047	2.0135	1.8249	1.6454	1.4842	1.3558	1.2748	1.2469	
F_x	0.7841	0.8122	0.8413	0.8691	0.8922	0.9072	0.9137	0.9146	

$$M_{\infty} = 3, \beta_{\kappa} = 30^{\circ}, \alpha = 5^{\circ}$$

ξ	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.00	1.2480	1.2491	1.2523	1.2576	1.2647	1.2734	1.2835	1.2946	1.3064
	0.7206	0.7212	0.7230	0.7261	0.7302	0.7352	0.7410	0.7475	0.7543
	0.0000	0.0258	0.0507	0.0741	0.0950	0.1125	0.1265	0.1358	0.1398
	1.7089	1.7025	1.6835	1.6527	1.6121	1.5640	1.5107	1.4547	1.3986
	3.0491	3.0409	3.0166	2.9771	2.9248	2.8621	2.7921	2.7177	2.6424
0.05	1.2559	1.2574	1.2620	1.2694	1.2794	1.2919	1.3064	1.3224	1.3393
	0.7071	0.7080	0.7107	0.7151	0.7210	0.7285	0.7371	0.7465	0.7566
	0.0000	0.0270	0.0532	0.0776	0.0995	0.1177	0.1322	0.1421	0.1460
	1.7082	1.7018	1.6825	1.6523	1.6120	1.5640	1.5108	1.4549	1.3989
	3.0483	3.0414	3.0200	2.9877	2.9435	2.8916	2.8334	2.7718	2.7108
0.10	1.2636	1.2652	1.2697	1.2773	1.2876	1.3001	1.3148	1.3307	1.3475
	0.6942	0.6951	0.6979	0.7026	0.7088	0.7165	0.7254	0.7351	0.7454
	0.0000	0.0277	0.0546	0.0796	0.1020	0.1210	0.1357	0.1456	0.1501
	1.7063	1.6999	1.6810	1.6507	1.6106	1.5628	1.5099	1.4541	1.3983
	3.0458	3.0391	3.0190	2.9869	2.9442	2.8928	2.8361	2.7753	2.7142
0.15	1.2712	1.2727	1.2773	1.2849	1.2953	1.3079	1.3225	1.3384	1.3555
	0.6817	0.6827	0.6857	0.6904	0.6969	0.7048	0.7139	0.7241	0.7346
	0.0000	0.0283	0.0556	0.0811	0.1039	0.1232	0.1381	0.1481	0.1528
	1.7031	1.6968	1.6782	1.6479	1.6080	1.5605	1.5079	1.4526	1.3955
	3.0418	3.0352	3.0158	2.9841	2.9423	2.8918	2.8358	2.7764	2.7157
0.20	1.2786	1.2802	1.2848	1.2924	1.3027	1.3153	1.3299	1.3459	1.3627
	0.6697	0.6708	0.6738	0.6787	0.6854	0.6935	0.7029	0.7129	0.7239
	0.0000	0.0287	0.0564	0.0823	0.1053	0.1248	0.1400	0.1501	0.1549
	1.6989	1.6926	1.6741	1.6441	1.6045	1.5573	1.5050	1.4489	1.3940
	3.0364	3.0299	3.0109	2.9798	2.9386	2.8889	2.8336	2.7728	2.7143
0.25	1.2859	1.2875	1.2922	1.2997	1.3100	1.3226	1.3370	1.3528	1.3698
	0.6582	0.6592	0.6623	0.6674	0.6742	0.6826	0.6921	0.7030	0.7137
	0.0000	0.0290	0.0571	0.0832	0.1065	0.1262	0.1415	0.1517	0.1564
	1.6937	1.6875	1.6689	1.6394	1.6000	1.5532	1.5011	1.4472	1.3907
	3.0297	3.0234	3.0044	2.9741	2.9336	2.8847	2.8298	2.7734	2.7120
0.30	1.2931	1.2947	1.2993	1.3069	1.3171	1.3296	1.3441	1.3600	1.3765
	0.6470	0.6481	0.6512	0.6564	0.6634	0.6720	0.6818	0.6922	0.7037
	0.0000	0.0293	0.0576	0.0840	0.1075	0.1273	0.1427	0.1529	0.1576
	1.6876	1.6814	1.6631	1.6337	1.5948	1.5482	1.4965	1.4408	1.3867
	3.0220	3.0157	2.9971	2.9672	2.9273	2.8789	2.8250	2.7647	2.7075
0.35	1.3003	1.3018	1.3066	1.3139	1.3241	1.3366	1.3509	1.3668	1.3832
	0.6361	0.6372	0.6404	0.6458	0.6530	0.6617	0.6717	0.6828	0.6941
	0.0000	0.0295	0.0581	0.0847	0.1083	0.1282	0.1436	0.1539	0.1586
	1.6807	1.6746	1.6561	1.6273	1.5887	1.5425	1.4910	1.4367	1.3820
	3.0131	3.0070	2.9883	2.9593	2.9199	2.8724	2.8185	2.7614	2.7022
0.40	1.3073	1.3089	1.3133	1.3209	1.3310	1.3434	1.3577	1.3729	1.3898
	0.6256	0.6267	0.6301	0.6355	0.6428	0.6518	0.6620	0.6733	0.6847
	0.0000	0.0298	0.0585	0.0853	0.1091	0.1291	0.1445	0.1548	0.1594
	1.6730	1.6669	1.6493	1.6201	1.5819	1.5360	1.4850	1.4321	1.3764
	3.0032	2.9972	2.9797	2.9503	2.9114	2.8645	2.8115	2.7556	2.6955
0.45	1.3143	1.3159	1.3204	1.3278	1.3378	1.3501	1.3643	1.3798	1.3961
	0.6153	0.6165	0.6199	0.6255	0.6330	0.6421	0.6526	0.6637	0.6756
	0.0000	0.0300	0.0589	0.0858	0.1097	0.1298	0.1452	0.1555	0.1600
	1.6646	1.6586	1.6409	1.6123	1.5742	1.5289	1.4785	1.4242	1.3703
	2.9924	2.9865	2.9690	2.9404	2.9020	2.8555	2.8035	2.7454	2.6876
0.50	1.3213	1.3228	1.3274	1.3347	1.3446	1.3568	1.3709	1.3868	1.4023
	0.6054	0.6065	0.6100	0.6157	0.6234	0.6327	0.6433	0.6547	0.6669
	0.0000	0.0301	0.0592	0.0862	0.1102	0.1304	0.1458	0.1560	0.1605
	1.6554	1.6495	1.6319	1.6037	1.5661	1.5212	1.4711	1.4168	1.3640
	2.9807	2.9748	2.9575	2.9295	2.8916	2.8459	2.7940	2.7359	2.6798

$$M_{\infty} = 3, \beta_{\kappa} = 30^{\circ}, \alpha = 5^{\circ}$$

ξ	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.55	1.3282 0.5956 0.0000 1.6457 2.9681	1.3297 0.5968 0.0303 1.6398 2.9623	1.3342 0.6004 0.0595 1.6224 2.9453	1.3415 0.6062 0.0866 1.5945 2.9177	1.3513 0.6140 0.1107 1.5574 2.8805	1.3634 0.6235 0.1310 1.5129 2.8352	1.3774 0.6343 0.1464 1.4631 2.7838	1.3920 0.6464 0.1565 1.4119 2.7302	1.4086 0.6582 0.1609 1.3568 2.6704
0.60	1.3351 0.5860 0.0000 1.6352 2.9547	1.3366 0.5873 0.0304 1.6295 2.9490	1.3410 0.5909 0.0598 1.6124 2.9324	1.3482 0.5968 0.0870 1.5847 2.9050	1.3580 0.6048 0.1112 1.5479 2.8683	1.3700 0.6145 0.1315 1.5039 2.8237	1.3838 0.6255 0.1469 1.4546 2.7728	1.3993 0.6371 0.1569 1.4013 2.7162	1.4149 0.6497 0.1613 1.3490 2.6600
0.65	1.3420 0.5767 0.0000 1.6242 2.9404	1.3434 0.5779 0.0306 1.6185 2.9349	1.3479 0.5816 0.0600 1.6014 2.9182	1.3550 0.5877 0.0874 1.5743 2.8916	1.3647 0.5958 0.1116 1.5380 2.8555	1.3766 0.6056 0.1319 1.4944 2.8113	1.3902 0.6168 0.1473 1.4457 2.7610	1.4051 0.6292 0.1573 1.3946 2.7078	1.4211 0.6415 0.1616 1.3408 2.6493
0.70	1.3488 0.5675 0.0000 1.6126 2.9254	1.3503 0.5687 0.0307 1.6070 2.9199	1.3547 0.5725 0.0603 1.5901 2.9034	1.3617 0.5787 0.0877 1.5633 2.8773	1.3713 0.5869 0.1120 1.5275 2.8418	1.3831 0.5970 0.1323 1.4844 2.7983	1.3966 0.6083 0.1477 1.4361 2.7485	1.4122 0.6202 0.1576 1.3828 2.6917	1.4273 0.6334 0.1618 1.3322 2.6377
0.75	1.3557 0.5584 0.0000 1.6003 2.9096	1.3571 0.5597 0.0308 1.5948 2.9042	1.3614 0.5636 0.0605 1.5784 2.8883	1.3684 0.5698 0.0880 1.5518 2.8623	1.3780 0.5782 0.1123 1.5163 2.8273	1.3896 0.5884 0.1326 1.4738 2.7844	1.4031 0.6000 0.1480 1.4259 2.7350	1.4171 0.6130 0.1579 1.3771 2.6843	1.4334 0.6254 0.1620 1.3231 2.6253
0.80	1.3626 0.5494 0.0000 1.5876 2.8929	1.3640 0.5507 0.0309 1.5821 2.8876	1.3682 0.5547 0.0607 1.5660 2.8722	1.3752 0.5610 0.0883 1.5397 2.8465	1.3846 0.5696 0.1127 1.5047 2.8119	1.3962 0.5799 0.1329 1.4625 2.7695	1.4094 0.5917 0.1483 1.4155 2.7210	1.4241 0.6044 0.1582 1.3649 2.6677	1.4397 0.6175 0.1621 1.3132 2.6118
0.85	1.3696 0.5405 0.0000 1.5741 2.8754	1.3709 0.5419 0.0310 1.5688 2.8702	1.3751 0.5459 0.0609 1.5528 2.8550	1.3820 0.5524 0.0886 1.5269 2.8298	1.3913 0.5611 0.1130 1.4923 2.7958	1.4028 0.5716 0.1332 1.4509 2.7540	1.4158 0.5836 0.1486 1.4045 2.7064	1.4313 0.5960 0.1584 1.3523 2.6507	1.4459 0.6097 0.1622 1.3032 2.5978
0.90	1.3766 0.5317 0.0000 1.5601 2.8571	1.3779 0.5331 0.0311 1.5548 2.8520	1.3821 0.5371 0.0611 1.5390 2.8368	1.3889 0.5438 0.0888 1.5136 2.8123	1.3981 0.5526 0.1132 1.4796 2.7788	1.4094 0.5633 0.1335 1.4387 2.7378	1.4225 0.5754 0.1488 1.3925 2.6902	1.4362 0.5889 0.1586 1.3448 2.6403	1.4520 0.6020 0.1623 1.2928 2.5833
0.95	1.3836 0.5229 0.0000 1.5455 2.8379	1.3850 0.5243 0.0312 1.5403 2.8329	1.3892 0.5284 0.0612 1.5245 2.8178	1.3958 0.5352 0.0890 1.4997 2.7939	1.4049 0.5442 0.1135 1.4662 2.7610	1.4161 0.5551 0.1338 1.4258 2.7205	1.4291 0.5673 0.1491 1.3800 2.6732	1.4430 0.5807 0.1587 1.3319 2.6224	1.4585 0.5941 0.1624 1.2811 2.5671
1.00	1.3908 0.5141 0.0000 1.5302 2.8178	1.3922 0.5156 0.0313 1.5250 2.8129	1.3963 0.5198 0.0614 1.5096 2.7982	1.4028 0.5266 0.0893 1.4851 2.7746	1.4118 0.5358 0.1138 1.4521 2.7423	1.4230 0.5468 0.1340 1.4122 2.7022	1.4356 0.5593 0.1493 1.3675 2.6562	1.4506 0.5724 0.1589 1.3176 2.6033	1.4651 0.5863 0.1625 1.2689 2.5501
F_x	0.8254	0.8257	0.8264	0.8276	0.8293	0.8312	0.8336	0.8351	0.8380

$$M_{\infty} = 3, \beta_{\kappa} = 30^{\circ}, \alpha = 5^{\circ}$$

σ	θ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.00	1.3183 0.7611 0.1385 1.3449 2.5696	1.3298 0.7678 0.1320 1.2954 2.5017	1.3406 0.7740 0.1200 1.2517 2.4411	1.3502 0.7795 0.1028 1.2148 2.3895	1.3581 0.7841 0.0813 1.1857 2.3485	1.3640 0.7875 0.0562 1.1647 2.3188	1.3676 0.7896 0.0288 1.1521 2.3008	1.4272 0.8240 0.0000 1.1479 2.4447	1.3689 0.7903 0.0000 1.1479 2.2947
0.05	1.3567 0.7669 0.1446 1.3452 2.6526	1.3738 0.7770 0.1379 1.2957 2.5989	1.3900 0.7865 0.1255 1.2518 2.5518	1.4045 0.7951 0.1078 1.2148 2.5131	1.4167 0.8023 0.0854 1.1855 2.4831	1.4260 0.8078 0.0592 1.1644 2.4620	1.4317 0.8111 0.0303 1.1517 2.4495	1.4339 0.8123 0.0000 1.1473 2.4442	
0.10	1.3650 0.7559 0.1490 1.3445 2.6563	1.3820 0.7662 0.1421 1.2949 2.6026	1.3980 0.7758 0.1294 1.2510 2.5551	1.4121 0.7844 0.1112 1.2138 2.5151	1.4240 0.7915 0.0882 1.1844 2.4837	1.4328 0.7969 0.0612 1.1631 2.4612	1.4384 0.8002 0.0314 1.1503 2.4477	1.4402 0.8014 0.0000 1.1462 2.4434	
0.15	1.3726 0.7452 0.1518 1.3429 2.6573	1.3894 0.7556 0.1447 1.2933 2.6032	1.4051 0.7654 0.1318 1.2493 2.5551	1.4191 0.7740 0.1133 1.2120 2.5144	1.4307 0.7812 0.0899 1.1825 2.4821	1.4394 0.7865 0.0623 1.1611 2.4586	1.4448 0.7899 0.0320 1.1482 2.4446	1.4467 0.7909 0.0000 1.1436 2.4395	
0.20	1.3798 0.7348 0.1538 1.3405 2.6563	1.3964 0.7453 0.1466 1.2903 2.6018	1.4120 0.7552 0.1335 1.2468 2.5533	1.4258 0.7640 0.1147 1.2095 2.5119	1.4372 0.7712 0.0909 1.1798 2.4789	1.4457 0.7766 0.0631 1.1583 2.4548	1.4510 0.7799 0.0323 1.1453 2.4403	1.4529 0.7810 0.0000 1.1408 2.4353	
0.25	1.3867 0.7247 0.1552 1.3373 2.6535	1.4032 0.7354 0.1479 1.2877 2.5989	1.4186 0.7454 0.1346 1.2436 2.5499	1.4322 0.7543 0.1157 1.2062 2.5080	1.4435 0.7616 0.0917 1.1764 2.4744	1.4519 0.7670 0.0636 1.1548 2.4499	1.4571 0.7704 0.0326 1.1418 2.4350	1.4588 0.7716 0.0000 1.1375 2.4302	
0.30	1.3934 0.7150 0.1563 1.3334 2.6494	1.4097 0.7259 0.1489 1.2839 2.5947	1.4250 0.7360 0.1355 1.2398 2.5454	1.4384 0.7449 0.1164 1.2023 2.5030	1.4496 0.7523 0.0922 1.1725 2.4690	1.4579 0.7579 0.0639 1.1508 2.4440	1.4631 0.7613 0.0328 1.1377 2.4288	1.4648 0.7624 0.0000 1.1333 2.4238	
0.35	1.3999 0.7055 0.1572 1.3288 2.6411	1.4161 0.7166 0.1497 1.2794 2.5893	1.4312 0.7269 0.1361 1.2353 2.5397	1.4446 0.7359 0.1168 1.1978 2.4969	1.4556 0.7434 0.0925 1.1679 2.4625	1.4639 0.7490 0.0641 1.1462 2.4372	1.4690 0.7524 0.0329 1.1330 2.4218	1.4708 0.7535 0.0000 1.1283 2.4162	
0.40	1.4063 0.6964 0.1578 1.3235 2.6376	1.4224 0.7076 0.1502 1.2744 2.5830	1.4374 0.7180 0.1366 1.2303 2.5331	1.4506 0.7272 0.1172 1.1928 2.4900	1.4616 0.7347 0.0928 1.1628 2.4552	1.4698 0.7404 0.0643 1.1410 2.4295	1.4747 0.7439 0.0329 1.1278 2.4139	1.4765 0.7450 0.0000 1.1234 2.4086	
0.45	1.4126 0.6875 0.1584 1.3178 2.6304	1.4286 0.6989 0.1507 1.2687 2.5757	1.4434 0.7094 0.1369 1.2248 2.5256	1.4566 0.7187 0.1174 1.1872 2.4821	1.4674 0.7263 0.0929 1.1573 2.4470	1.4756 0.7320 0.0643 1.1354 2.4211	1.4806 0.7356 0.0329 1.1222 2.4053	1.4823 0.7367 0.0000 1.1175 2.3996	
0.50	1.4187 0.6788 0.1588 1.3116 2.6222	1.4347 0.6904 0.1510 1.2625 2.5673	1.4494 0.7011 0.1371 1.2187 2.5172	1.4625 0.7104 0.1175 1.1812 2.4735	1.4733 0.7182 0.0930 1.1512 2.4381	1.4813 0.7239 0.0643 1.1293 2.4119	1.4862 0.7275 0.0329 1.1160 2.3959	1.4878 0.7288 0.0000 1.1120 2.3910	

$$M_{\infty} = 3, \beta_{\kappa} = 30^{\circ}, \alpha = 5^{\circ}$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.55	1.4249	1.4407	1.4553	1.4683	1.4790	1.4871	1.4920	1.4937	
	0.6704	0.6821	0.6929	0.7024	0.7102	0.7160	0.7195	0.7207	
	0.1592	0.1512	0.1372	0.1176	0.0930	0.0643	0.0329	0.0000	
	1.3046	1.2559	1.2121	1.1747	1.1447	1.1227	1.1094	1.1048	
0.60	2.6129	2.5583	2.5080	2.4641	2.4284	2.4020	2.3858	2.3800	
	1.4310	1.4467	1.4612	1.4741	1.4848	1.4928	1.4977	1.4995	
	0.6621	0.6740	0.6849	0.6945	0.7023	0.7082	0.7118	0.7129	
	0.1594	0.1514	0.1373	0.1176	0.0929	0.0643	0.0329	0.0000	
0.65	1.2972	1.2487	1.2051	1.1677	1.1377	1.1157	1.1024	1.0977	
	2.6030	2.5484	2.4980	2.4539	2.4180	2.3914	2.3751	2.3691	
	1.4370	1.4526	1.4671	1.4799	1.4906	1.4985	1.5034	1.5051	
	0.6540	0.6660	0.6771	0.6867	0.6946	0.7005	0.7041	0.7054	
0.70	0.1596	0.1515	0.1373	0.1175	0.0929	0.0642	0.0328	0.0000	
	1.2894	1.2411	1.1976	1.1602	1.1303	1.1083	1.0950	1.0905	
	2.5923	2.5377	2.4873	2.4431	2.4069	2.3801	2.3636	2.3581	
	1.4431	1.4585	1.4730	1.4858	1.4963	1.5042	1.5091	1.5108	
0.75	0.6461	0.6582	0.6694	0.6791	0.6871	0.6930	0.6966	0.6978	
	0.1598	0.1515	0.1372	0.1174	0.0927	0.0641	0.0328	0.0000	
	1.2811	1.2329	1.1896	1.1524	1.1224	1.1004	1.0871	1.0826	
	2.5809	2.5263	2.4758	2.4314	2.3951	2.3681	2.3515	2.3458	
0.80	1.4492	1.4645	1.4788	1.4916	1.5021	1.5100	1.5149	1.5166	
	0.6382	0.6505	0.6618	0.6715	0.6796	0.6855	0.6892	0.6904	
	0.1599	0.1515	0.1372	0.1173	0.0926	0.0640	0.0327	0.0000	
	1.2721	1.2244	1.1812	1.1440	1.1141	1.0921	1.0788	1.0742	
0.85	2.5685	2.5142	2.4636	2.4191	2.3826	2.3553	2.3386	2.3328	
	1.4552	1.4705	1.4848	1.4975	1.5080	1.5159	1.5207	1.5224	
	0.6305	0.6429	0.6542	0.6641	0.6721	0.6781	0.6818	0.6831	
	0.1599	0.1515	0.1371	0.1172	0.0925	0.0639	0.0327	0.0000	
0.90	1.2629	1.2154	1.1724	1.1352	1.1053	1.0834	1.0700	1.0656	
	2.5557	2.5012	2.4507	2.4060	2.3693	2.3418	2.3250	2.3196	
	1.4613	1.4765	1.4907	1.5034	1.5139	1.5218	1.5266	1.5284	
	0.6228	0.6353	0.6468	0.6567	0.6648	0.6707	0.6744	0.6756	
0.95	0.1600	0.1514	0.1370	0.1170	0.0923	0.0638	0.0326	0.0000	
	1.2532	1.2058	1.1630	1.1260	1.0961	1.0741	1.0607	1.0561	
	2.5421	2.4875	2.4369	2.3921	2.3552	2.3276	2.3106	2.3048	
	1.4676	1.4826	1.4968	1.5094	1.5199	1.5278	1.5327	1.5345	
1.00	0.6152	0.6278	0.6393	0.6493	0.6574	0.6634	0.6670	0.6682	
	0.1600	0.1514	0.1368	0.1168	0.0921	0.0636	0.0325	0.0000	
	1.2427	1.1958	1.1531	1.1162	1.0863	1.0644	1.0510	1.0461	
	2.5271	2.4730	2.4224	2.3774	2.3403	2.3125	2.2954	2.2892	
F _x	1.4738	1.4888	1.5029	1.5156	1.5260	1.5339	1.5388	1.5406	
	0.6075	0.6203	0.6319	0.6419	0.6500	0.6560	0.6596	0.6608	
	0.1599	0.1513	0.1366	0.1166	0.0919	0.0635	0.0324	0.0000	
	1.2318	1.1853	1.1427	1.1059	1.0760	1.0541	1.0406	1.0359	
F _x	2.5116	2.4577	2.4070	2.3619	2.3246	2.2966	2.2793	2.2730	
	1.4801	1.4951	1.5092	1.5213	1.5323	1.5402	1.5451	1.5467	
	0.6000	0.6128	0.6244	0.6344	0.6425	0.6485	0.6521	0.6534	
	0.1599	0.1511	0.1365	0.1164	0.0917	0.0633	0.0323	0.0000	
F _x	1.2205	1.1742	1.1318	1.0950	1.0651	1.0432	1.0297	1.0254	
	2.4954	2.4415	2.3907	2.3454	2.3078	2.2796	2.2621	2.2566	
	0.8408	0.8431	0.8451	0.8467	0.8480	0.8490	0.8495	0.8498	

$$M_{\infty} = 3, \beta_{\kappa} = 30^{\circ}, \alpha = 10^{\circ}$$

ξ	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.00	1.1392	1.1414	1.1477	1.1581	1.1724	1.1900	1.2106	1.2335	1.2580
	0.6577	0.6590	0.6626	0.6687	0.6769	0.6870	0.6989	0.7122	0.7263
	0.0300	0.0502	0.0990	0.1451	0.1872	0.2239	0.2538	0.2757	0.2882
	2.0196	2.0047	1.9611	1.8918	1.8014	1.6959	1.5816	1.4649	1.3517
0.05	3.3111	3.2937	3.2423	3.1600	3.0515	2.9228	2.7807	2.6325	2.4856
	1.1477	1.1504	1.1586	1.1722	1.1906	1.2136	1.2404	1.2705	1.3030
	0.6433	0.6449	0.6499	0.6580	0.6690	0.6827	0.6987	0.7167	0.7360
	0.0300	0.0518	0.1022	0.1496	0.1926	0.2298	0.2598	0.2813	0.2932
0.10	2.0188	2.0040	1.9608	1.8921	1.8025	1.6978	1.5842	1.4680	1.3550
	3.3102	3.2947	3.2491	3.1761	3.0798	2.9657	2.8401	2.7098	2.5817
	1.1560	1.1588	1.1673	1.1813	1.2003	1.2239	1.2514	1.2822	1.3152
	0.6294	0.6311	0.6364	0.6451	0.6569	0.6715	0.6885	0.7074	0.7276
0.15	0.0300	0.0529	0.1043	0.1527	0.1965	0.2343	0.2648	0.2867	0.2989
	2.0165	2.0019	1.9591	1.8911	1.8023	1.6984	1.5855	1.4699	1.3573
	3.3075	3.2926	3.2488	3.1785	3.0858	2.9756	2.8540	2.7274	2.6022
	1.1641	1.1670	1.1757	1.1898	1.2091	1.2330	1.2608	1.2918	1.3249
0.20	0.6160	0.6178	0.6234	0.6325	0.6449	0.6602	0.6779	0.6975	0.7184
	0.0300	0.0538	0.1060	0.1551	0.1995	0.2378	0.2687	0.2908	0.3031
	2.0128	1.9983	1.9561	1.8888	1.8009	1.6979	1.5859	1.4709	1.3587
	3.3031	3.2888	3.2464	3.1784	3.0884	2.9813	2.8627	2.7387	2.6155
0.25	1.1721	1.1751	1.1838	1.1980	1.2175	1.2415	1.2694	1.3004	1.3334
	0.6030	0.6050	0.6108	0.6203	0.6332	0.6491	0.6674	0.6877	0.7091
	0.0300	0.0546	0.1075	0.1572	0.2021	0.2407	0.2718	0.2940	0.3063
	2.0078	1.9936	1.9518	1.8852	1.7983	1.6963	1.5851	1.4710	1.3592
0.30	3.2974	3.2834	3.2423	3.1762	3.0887	2.9842	2.8682	2.7464	2.6247
	1.1801	1.1830	1.1917	1.2060	1.2255	1.2495	1.2774	1.3083	1.3412
	0.5935	0.5926	0.5986	0.6085	0.6218	0.6383	0.6572	0.6780	0.7000
	0.0300	0.0552	0.1087	0.1590	0.2043	0.2432	0.2745	0.2967	0.3088
0.35	2.0017	1.9877	1.9464	1.8807	1.7947	1.6937	1.5836	1.4701	1.3590
	3.2902	3.2767	3.2367	3.1724	3.0871	2.9851	2.8714	2.7515	2.6311
	1.1879	1.1908	1.1995	1.2138	1.2332	1.2572	1.2850	1.3158	1.3485
	0.5784	0.5805	0.5868	0.5970	0.6108	0.6278	0.6473	0.6686	0.6910
0.40	0.0300	0.0558	0.1099	0.1605	0.2062	0.2454	0.2767	0.2989	0.3109
	1.9946	1.9807	1.9400	1.8751	1.7901	1.6902	1.5811	1.4685	1.3580
	3.2818	3.2686	3.2298	3.1672	3.0840	2.9842	2.8726	2.7545	2.6352
	1.1956	1.1985	1.2072	1.2214	1.2408	1.2646	1.2923	1.3229	1.3554
0.45	0.5667	0.5689	0.5754	0.5859	0.6001	0.6176	0.6376	0.6595	0.6824
	0.0300	0.0563	0.1109	0.1620	0.2080	0.2474	0.2787	0.3008	0.3126
	1.9865	1.9728	1.9326	1.8685	1.7846	1.6858	1.5778	1.4662	1.3563
	3.2722	3.2594	3.2216	3.1606	3.0794	2.9817	2.8722	2.7558	2.6376
0.50	1.2032	1.2061	1.2148	1.2289	1.2482	1.2719	1.2993	1.3297	1.3621
	0.5553	0.5576	0.5642	0.5751	0.5898	0.6077	0.6282	0.6506	0.6739
	0.0300	0.0568	0.1119	0.1633	0.2096	0.2491	0.2804	0.3024	0.3139
	1.9774	1.9639	1.9243	1.8611	1.7783	1.6807	1.5738	1.4631	1.3539
0.55	3.2616	3.2491	3.2123	3.1529	3.0736	2.9780	2.8704	2.7556	2.6385
	1.2108	1.2137	1.2223	1.2363	1.2554	1.2789	1.3062	1.3364	1.3684
	0.5442	0.5465	0.5534	0.5646	0.5796	0.5980	0.6191	0.6419	0.6657
	0.0300	0.0573	0.1127	0.1646	0.2111	0.2507	0.2820	0.3038	0.3151
0.60	1.9675	1.9542	1.9152	1.8529	1.7712	1.6748	1.5691	1.4594	1.3510
	3.2499	3.2378	3.2019	3.1440	3.0666	2.9730	2.8673	2.7540	2.6380
	1.2183	1.2212	1.2297	1.2436	1.2625	1.2859	1.3129	1.3428	1.3746
	0.5334	0.5358	0.5428	0.5543	0.5698	0.5887	0.6102	0.6335	0.6578
0.65	0.0300	0.0577	0.1136	0.1657	0.2124	0.2522	0.2834	0.3051	0.3161
	1.9568	1.9437	1.9053	1.8440	1.7634	1.6683	1.5637	1.4551	1.3475
	3.2372	3.2254	3.1906	3.1341	3.0585	2.9668	2.8630	2.7513	2.6363

$$M_{\infty} = 3, \beta_{\kappa} = 30^{\circ}, \alpha = 10^{\circ}$$

ξ	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.55	1.2258	1.2286	1.2371	1.2509	1.2696	1.2927	1.3195	1.3491	1.3806
	0.5228	0.5253	0.5325	0.5443	0.5602	0.5795	0.6015	0.6254	0.6500
	0.0000	0.0581	0.1144	0.1668	0.2137	0.2535	0.2847	0.3062	0.3169
	1.9453	1.9324	1.8946	1.8343	1.7549	1.6610	1.5578	1.4502	1.3434
	3.2236	3.2122	3.1782	3.1232	3.0494	2.9597	2.8577	2.7475	2.6335
0.60	1.2333	1.2361	1.2444	1.2581	1.2766	1.2994	1.3259	1.3553	1.3865
	0.5125	0.5150	0.5224	0.5345	0.5508	0.5706	0.5931	0.6174	0.6425
	0.0000	0.0585	0.1151	0.1679	0.2149	0.2548	0.2859	0.3072	0.3175
	1.9330	1.9204	1.8832	1.8239	1.7457	1.6532	1.5512	1.4448	1.3388
	3.2091	3.1980	3.1650	3.1114	3.0393	2.9515	2.8513	2.7426	2.6297
0.65	1.2407	1.2435	1.2517	1.2652	1.2835	1.3061	1.3323	1.3614	1.3923
	0.5023	0.5049	0.5126	0.5249	0.5416	0.5618	0.5848	0.6096	0.6352
	0.0000	0.0589	0.1159	0.1689	0.2161	0.2560	0.2870	0.3081	0.3181
	1.9201	1.9077	1.8711	1.8128	1.7359	1.6447	1.5440	1.4388	1.3338
	3.1937	3.1829	3.1508	3.0987	3.0283	2.9424	2.8440	2.7368	2.6249
0.70	1.2481	1.2508	1.2590	1.2723	1.2904	1.3127	1.3386	1.3674	1.3980
	0.4924	0.4950	0.5028	0.5155	0.5326	0.5533	0.5767	0.6020	0.6280
	0.0000	0.0593	0.1166	0.1698	0.2172	0.2571	0.2880	0.3089	0.3186
	1.9064	1.8942	1.8584	1.8011	1.7254	1.6356	1.5363	1.4323	1.3282
	3.1775	3.1670	3.1358	3.0851	3.0165	2.9324	2.8358	2.7301	2.6193
0.75	1.2555	1.2582	1.2663	1.2794	1.2972	1.3193	1.3449	1.3733	1.4036
	0.4826	0.4853	0.4933	0.5063	0.5237	0.5448	0.5688	0.5945	0.6209
	0.0000	0.0597	0.1172	0.1707	0.2182	0.2582	0.2890	0.3096	0.3190
	1.8921	1.8802	1.8450	1.7887	1.7143	1.6260	1.5281	1.4253	1.3222
	3.1604	3.1503	3.1200	3.0706	3.0037	2.9215	2.8267	2.7226	2.6128
0.80	1.2630	1.2657	1.2736	1.2865	1.3041	1.3258	1.3511	1.3792	1.4092
	0.4729	0.4756	0.4839	0.4971	0.5150	0.5365	0.5610	0.5872	0.6140
	0.0000	0.0600	0.1179	0.1716	0.2193	0.2592	0.2899	0.3103	0.3194
	1.8771	1.8654	1.8309	1.7757	1.7027	1.6158	1.5193	1.4179	1.3158
	3.1425	3.1326	3.1033	3.0553	2.9901	2.9098	2.8168	2.7142	2.6055
0.85	1.2705	1.2731	1.2809	1.2936	1.3109	1.3324	1.3573	1.3851	1.4148
	0.4633	0.4661	0.4745	0.4881	0.5063	0.5284	0.5533	0.5799	0.6072
	0.0000	0.0603	0.1185	0.1724	0.2202	0.2602	0.2907	0.3109	0.3197
	1.8614	1.8500	1.8162	1.7620	1.6904	1.6050	1.5100	1.4099	1.3089
	3.1238	3.1142	3.0857	3.0391	2.9756	2.8972	2.8060	2.7049	2.5974
0.90	1.2780	1.2806	1.2882	1.3008	1.3178	1.3389	1.3635	1.3909	1.4204
	0.4538	0.4567	0.4653	0.4792	0.4978	0.5203	0.5457	0.5728	0.6005
	0.0000	0.0607	0.1191	0.1733	0.2212	0.2611	0.2916	0.3114	0.3199
	1.8451	1.8338	1.8008	1.7477	1.6775	1.5936	1.5002	1.4014	1.3015
	3.1041	3.0948	3.0673	3.0220	2.9603	2.8837	2.7943	2.6948	2.5884
0.95	1.2856	1.2882	1.2957	1.3080	1.3247	1.3455	1.3698	1.3968	1.4259
	0.4444	0.4474	0.4561	0.4703	0.4893	0.5123	0.5381	0.5657	0.5938
	0.0000	0.0610	0.1197	0.1741	0.2221	0.2620	0.2923	0.3120	0.3201
	1.8280	1.8170	1.7847	1.7328	1.6640	1.5816	1.4898	1.3924	1.2936
	3.0836	3.0746	3.0479	3.0041	2.9441	2.8694	2.7818	2.6839	2.5787
1.00	1.2933	1.2958	1.3032	1.3152	1.3317	1.3521	1.3760	1.4027	1.4315
	0.4350	0.4380	0.4470	0.4615	0.4809	0.5043	0.5306	0.5587	0.5872
	0.0000	0.0613	0.1203	0.1749	0.2230	0.2629	0.2931	0.3125	0.3203
	1.8102	1.7995	1.7679	1.7172	1.6498	1.5691	1.4788	1.3829	1.2853
	3.0621	3.0534	3.0277	2.9852	2.9269	2.8541	2.7684	2.6722	2.5682
F_x	0.8257	0.8263	0.8279	0.8306	0.8343	0.8389	0.8441	0.8499	0.8559

$$M_{\infty} = 3, \beta_{\kappa} = 30^{\circ}, \alpha = 10^{\circ}$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.00	1.2833 0.7409 0.2900 1.2470 2.3464	1.3084 0.7554 0.2800 1.1546 2.2209	1.3321 0.7691 0.2573 1.0771 2.1133	1.3535 0.7814 0.2221 1.0156 2.0264	1.3711 0.7916 0.1758 0.9699 1.9609	1.3843 0.7992 0.1211 0.9389 1.9160	1.3922 0.8038 0.0619 0.9212 1.8901	1.4973 0.8644 0.0000 0.9154 2.1282	1.3948 0.8053 0.0000 0.9154 1.8815
0.05	1.3369 0.7562 0.2943 1.2502 2.4623	1.3713 0.7766 0.2838 1.1575 2.3576	1.4048 0.7964 0.2611 1.0794 2.2721	1.4361 0.8149 0.2265 1.0172 2.2084	1.4634 0.8310 0.1811 0.9708 2.1662	1.4848 0.8436 0.1264 0.9392 2.1421	1.4985 0.8516 0.0652 0.9210 2.1309	1.5033 0.8541 0.0000 0.9150 2.1275	
0.10	1.3494 0.7485 0.3002 1.2526 2.4847	1.3837 0.7693 0.2899 1.1596 2.3803	1.4167 0.7893 0.2675 1.0810 2.2933	1.4469 0.8075 0.2329 1.0181 2.2259	1.4726 0.8230 0.1869 0.9710 2.1782	1.4924 0.8348 0.1310 0.9387 2.1476	1.5047 0.8422 0.0677 0.9201 2.1311	1.5090 0.8446 0.0000 0.9139 2.1257	
0.15	1.3591 0.7398 0.3044 1.2541 2.4989	1.3932 0.7610 0.2941 1.1609 2.3942	1.4257 0.7811 0.2715 1.0819 2.3056	1.4551 0.7992 0.2366 1.0184 2.2352	1.4799 0.8145 0.1901 0.9705 2.1835	1.4987 0.8261 0.1332 0.9376 2.1489	1.5104 0.8334 0.0688 0.9186 2.1294	1.5145 0.8357 0.0000 0.9122 2.1228	
0.20	1.3675 0.7310 0.3075 1.2548 2.5087	1.4013 0.7525 0.2970 1.1615 2.4036	1.4333 0.7727 0.2742 1.0821 2.3134	1.4622 0.7909 0.2389 1.0180 2.2405	1.4864 0.8062 0.1919 0.9695 2.1857	1.5046 0.8177 0.1345 0.9360 2.1481	1.5158 0.8250 0.0694 0.9165 2.1265	1.5198 0.8273 0.0000 0.9100 2.1191	
0.25	1.3751 0.7222 0.3099 1.2548 2.5156	1.4085 0.7440 0.2991 1.1614 2.4100	1.4402 0.7645 0.2760 1.0817 2.3183	1.4686 0.7828 0.2403 1.0170 2.2432	1.4923 0.7981 0.1929 0.9679 2.1858	1.5102 0.8097 0.1351 0.9338 2.1459	1.5211 0.8170 0.0697 0.9139 2.1226	1.5249 0.8193 0.0000 0.9073 2.1147	
0.30	1.3821 0.7137 0.3117 1.2541 2.5201	1.4153 0.7358 0.3006 1.1607 2.4141	1.4466 0.7564 0.2771 1.0806 2.3211	1.4747 0.7748 0.2411 1.0155 2.2441	1.4980 0.7902 0.1934 0.9658 2.1845	1.5155 0.8019 0.1353 0.9311 2.1426	1.5263 0.8092 0.0698 0.9109 2.1178	1.5300 0.8116 0.0000 0.9041 2.1094	
0.35	1.3888 0.7054 0.3131 1.2527 2.5229	1.4217 0.7278 0.3016 1.1594 2.4164	1.4527 0.7487 0.2778 1.0790 2.3222	1.4804 0.7672 0.2415 1.0134 2.2435	1.5035 0.7827 0.1935 0.9632 2.1820	1.5207 0.7944 0.1353 0.9281 2.1382	1.5313 0.8018 0.0697 0.9075 2.1123	1.5350 0.8042 0.0000 0.9006 2.1035	
0.40	1.3951 0.6974 0.3142 1.2508 2.5241	1.4278 0.7201 0.3023 1.1575 2.4172	1.4585 0.7411 0.2782 1.0770 2.3220	1.4860 0.7598 0.2416 1.0109 2.2416	1.5088 0.7754 0.1934 0.9602 2.1784	1.5259 0.7872 0.1351 0.9246 2.1331	1.5363 0.7946 0.0696 0.9037 2.1061	1.5400 0.7971 0.0000 0.8966 2.0969	
0.45	1.4013 0.6896 0.3150 1.2483 2.5240	1.4336 0.7125 0.3028 1.1551 2.4167	1.4641 0.7338 0.2783 1.0744 2.3205	1.4914 0.7526 0.2414 1.0079 2.2387	1.5140 0.7683 0.1930 0.9567 2.1739	1.5309 0.7802 0.1347 0.9207 2.1272	1.5413 0.7876 0.0693 0.8995 2.0992	1.5449 0.7901 0.0000 0.8923 2.0897	
0.50	1.4072 0.6820 0.3156 1.2452 2.5227	1.4393 0.7052 0.3030 1.1522 2.4151	1.4696 0.7267 0.2782 1.0713 2.3180	1.4966 0.7457 0.2410 1.0046 2.2349	1.5191 0.7614 0.1926 0.9529 2.1685	1.5359 0.7733 0.1343 0.9164 2.1206	1.5462 0.7808 0.0691 0.8949 2.0917	1.5498 0.7833 0.0000 0.8876 2.0819	

$$M_{\infty} = 3, \beta_K = 30^\circ, \alpha = 10^\circ$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.55	1.4129 0.6746 0.3160 1.2417 2.5203	1.4448 0.6982 0.3031 1.1489 2.4125	1.4749 0.7198 0.2779 1.0679 2.3145	1.5018 0.7389 0.2406 1.0008 2.2302	1.5241 0.7547 0.1920 0.9487 2.1625	1.5409 0.7666 0.1338 0.9118 2.1132	1.5512 0.7741 0.2688 0.8903 2.0836	1.5547 0.7766 0.0000 0.8826 2.0734	
0.60	1.4186 0.6675 0.3161 1.2377 2.5169	1.4502 0.6913 0.3031 1.1451 2.4089	1.4801 0.7131 0.2775 1.0610 2.3102	1.5069 0.7323 0.2400 0.9966 2.2247	1.5292 0.7481 0.1914 0.9441 2.1557	1.5459 0.7601 0.1333 0.9067 2.1052	1.5561 0.7676 0.0685 0.8847 2.0748	1.5597 0.7700 0.0000 0.8772 2.0644	
0.65	1.4241 0.6605 0.3166 1.2332 2.5126	1.4555 0.6845 0.3029 1.1409 2.4045	1.4852 0.7066 0.2771 1.0597 2.3050	1.5119 0.7258 0.2393 0.9920 2.2184	1.5341 0.7417 0.1907 0.9391 2.1481	1.5508 0.7536 0.1327 0.9014 2.0966	1.5611 0.7611 0.0682 0.8790 2.0654	1.5646 0.7636 0.0000 0.8715 2.0547	
0.70	1.4295 0.6536 0.3167 1.2283 2.5075	1.4607 0.6780 0.3026 1.1363 2.3992	1.4903 0.7002 0.2765 1.0551 2.2991	1.5169 0.7195 0.2386 0.9871 2.2114	1.5391 0.7353 0.1899 0.9337 2.1399	1.5558 0.7472 0.1321 0.8956 2.0873	1.5661 0.7547 0.0678 0.8730 2.0553	1.5697 0.7571 0.0000 0.8653 2.0444	
0.75	1.4349 0.6469 0.3167 1.2230 2.5015	1.4659 0.6715 0.3023 1.1312 2.3932	1.4954 0.6939 0.2759 1.0500 2.2924	1.5220 0.7132 0.2378 0.9818 2.2037	1.5442 0.7291 0.1891 0.9280 2.1310	1.5603 0.7409 0.1315 0.8895 2.0773	1.5712 0.7483 0.0675 0.8666 2.0446	1.5748 0.7507 0.0000 0.8588 2.0334	
0.80	1.4402 0.6404 0.3167 1.2172 2.4948	1.4711 0.6652 0.3020 1.1258 2.3864	1.5004 0.6877 0.2752 1.0446 2.2850	1.5270 0.7071 0.2370 0.9761 2.1953	1.5492 0.7229 0.1883 0.9219 2.1214	1.5660 0.7346 0.1308 0.8830 2.0666	1.5764 0.7419 0.0671 0.8597 2.0331	1.5800 0.7443 0.0000 0.8519 2.0216	
0.85	1.4455 0.6339 0.3166 1.2110 2.4872	1.4762 0.6590 0.3015 1.1200 2.3788	1.5055 0.6816 0.2745 1.0388 2.2769	1.5320 0.7010 0.2361 0.9700 2.1861	1.5543 0.7167 0.1874 0.9154 2.1111	1.5712 0.7283 0.1301 0.8760 2.0551	1.5817 0.7355 0.0667 0.8525 2.0208	1.5853 0.7379 0.0000 0.8445 2.0091	
0.90	1.4508 0.6275 0.3165 1.2044 2.4789	1.4813 0.6529 0.3011 1.1137 2.3705	1.5106 0.6755 0.2738 1.0326 2.2680	1.5371 0.6949 0.2352 0.9635 2.1762	1.5595 0.7105 0.1866 0.9085 2.1000	1.5766 0.7219 0.1294 0.8686 2.0428	1.5871 0.7290 0.0663 0.8447 2.0077	1.5908 0.7313 0.0000 0.8366 1.9957	
0.95	1.4562 0.6212 0.3164 1.1974 2.4698	1.4865 0.6468 0.3006 1.1071 2.3614	1.5157 0.6695 0.2730 1.0259 2.2584	1.5423 0.6888 0.2343 0.9565 2.1656	1.5649 0.7043 0.1857 0.9011 2.0880	1.5821 0.7155 0.1287 0.8607 2.0296	1.5928 0.7224 0.0659 0.8364 1.9937	1.5965 0.7247 0.0000 0.8282 1.9813	
1.00	1.4615 0.6150 0.3162 1.1898 2.4599	1.4917 0.6407 0.3001 1.1000 2.3516	1.5208 0.6635 0.2722 1.0189 2.2480	1.5476 0.6828 0.2334 0.9492 2.1541	1.5703 0.6980 0.1847 0.8931 2.0752	1.5878 0.7090 0.1280 0.8522 2.0154	1.5987 0.7157 0.0655 0.8275 1.9785	1.6024 0.7179 0.0000 0.8191 1.9658	
F_x	0.8618	0.8672	0.8718	0.8753	0.8778	0.8793	0.8800	0.8802	

$$M_{\infty} = 3, \beta_k = 30^\circ, \alpha = 15^\circ$$

ξ	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.00	1.0174	1.0206	1.0301	1.0456	1.0668	1.0933	1.1244	1.1593	1.1971
	0.5874	0.5892	0.5947	0.6037	0.6159	0.6312	0.6492	0.6693	0.6911
	0.0000	0.0735	0.1454	0.2138	0.2771	0.3336	0.3815	0.4192	0.4445
	2.3368	2.3120	2.2398	2.1259	1.9792	1.8104	1.6310	1.4518	1.2822
	3.5407	3.5139	3.4351	3.3094	3.1447	2.9507	2.7387	2.5202	2.3062
0.05	1.0266	1.0304	1.0417	1.0604	1.0859	1.1177	1.1552	1.1973	1.2433
	0.5718	0.5741	0.5810	0.5922	0.6079	0.6269	0.6495	0.6750	0.7026
	0.0000	0.0751	0.1482	0.2175	0.2811	0.3372	0.3840	0.4197	0.4424
	2.3358	2.3114	2.2401	2.1276	1.9826	1.8156	1.6378	1.4597	1.2908
	3.5397	3.5151	3.4428	3.3274	3.1758	2.9969	2.8012	2.5991	2.4015
0.10	1.0355	1.0395	1.0513	1.0707	1.0973	1.1303	1.1691	1.2127	1.2600
	0.5567	0.5592	0.5668	0.5790	0.5958	0.6167	0.6412	0.6685	0.6980
	0.0000	0.0762	0.1504	0.2206	0.2848	0.3412	0.3879	0.4233	0.4456
	2.3331	2.3091	2.2387	2.1277	1.9846	1.8194	1.6433	1.4665	1.2984
	3.5368	3.5132	3.4440	3.3334	3.1878	3.0158	2.8271	2.6317	2.4399
0.15	1.0443	1.0484	1.0605	1.0803	1.1074	1.1410	1.1805	1.2247	1.2725
	0.5423	0.5450	0.5530	0.5661	0.5840	0.6062	0.6321	0.6609	0.6918
	0.0000	0.0773	0.1524	0.2233	0.2881	0.3448	0.3915	0.4267	0.4487
	2.3288	2.3051	2.2358	2.1264	1.9851	1.8219	1.6476	1.4723	1.3050
	3.5321	3.5095	3.4429	3.3363	3.1959	3.0297	2.8467	2.6566	2.4691
0.20	1.0530	1.0571	1.0694	1.0894	1.1167	1.1507	1.1904	1.2348	1.2828
	0.5283	0.5312	0.5396	0.5535	0.5724	0.5957	0.6228	0.6529	0.6849
	0.0000	0.0782	0.1542	0.2258	0.2911	0.3480	0.3948	0.4298	0.4514
	2.3231	2.2997	2.2315	2.1237	1.9844	1.8233	1.6508	1.4770	1.3107
	3.5259	3.5041	3.4399	3.3370	3.2013	3.0402	2.8623	2.6768	2.4929
0.25	1.0616	1.0657	1.0780	1.0981	1.1256	1.1596	1.1994	1.2438	1.2918
	0.5149	0.5179	0.5267	0.5413	0.5610	0.5854	0.6137	0.6449	0.6779
	0.0000	0.0791	0.1559	0.2282	0.2939	0.3511	0.3978	0.4326	0.4538
	2.3160	2.2930	2.2259	2.1198	1.9824	1.8235	1.6530	1.4808	1.3156
	3.5182	3.4972	3.4352	3.3358	3.2044	3.0481	2.8749	2.6935	2.5127
0.30	1.0700	1.0741	1.0864	1.1066	1.1340	1.1680	1.2077	1.2520	1.2997
	0.5018	0.5050	0.5143	0.5294	0.5500	0.5754	0.6047	0.6370	0.6710
	0.0000	0.0799	0.1575	0.2304	0.2966	0.3539	0.4006	0.4351	0.4558
	2.3077	2.2851	2.2191	2.1147	1.9795	1.8227	1.6543	1.4838	1.3198
	3.5092	3.4889	3.4290	3.3330	3.2057	3.0539	2.8852	2.7076	2.5296
0.35	1.0783	1.0825	1.0947	1.1148	1.1421	1.1761	1.2156	1.2596	1.3070
	0.4892	0.4925	0.5022	0.5179	0.5393	0.5657	0.5960	0.6292	0.6641
	0.0000	0.0807	0.1590	0.2325	0.2991	0.3566	0.4033	0.4374	0.4577
	2.2982	2.2760	2.2112	2.1085	1.9755	1.8210	1.6547	1.4860	1.3232
	3.4989	3.4793	3.4215	3.3287	3.2054	3.0579	2.8934	2.7195	2.5440
0.40	1.0866	1.0907	1.1029	1.1229	1.1501	1.1837	1.2230	1.2667	1.3137
	0.4770	0.4803	0.4904	0.5068	0.5290	0.5562	0.5875	0.6217	0.6575
	0.0000	0.0815	0.1605	0.2346	0.3015	0.3592	0.4057	0.4396	0.4592
	2.2877	2.2659	2.2023	2.1014	1.9705	1.8184	1.6544	1.4875	1.3260
	3.4874	3.4685	3.4128	3.3230	3.2036	3.0603	2.8998	2.7294	2.5564
0.45	1.0948	1.0988	1.1110	1.1308	1.1578	1.1912	1.2300	1.2733	1.3199
	0.4650	0.4685	0.4789	0.4959	0.5188	0.5469	0.5792	0.6143	0.6510
	0.0000	0.0822	0.1619	0.2366	0.3038	0.3616	0.4080	0.4415	0.4606
	2.2762	2.2548	2.1924	2.0934	1.9647	1.8150	1.6532	1.4883	1.3281
	3.4749	3.4567	3.4029	3.3161	3.2004	3.0612	2.9047	2.7376	2.5670
0.50	1.1029	1.1069	1.1189	1.1386	1.1653	1.1983	1.2368	1.2797	1.3258
	0.4514	0.4570	0.4678	0.4853	0.5090	0.5380	0.5711	0.6072	0.6446
	0.0000	0.0830	0.1633	0.2385	0.3061	0.3640	0.4102	0.4433	0.4618
	2.2637	2.2428	2.1816	2.0844	1.9581	1.8108	1.6514	1.4884	1.3297
	3.4613	3.4438	3.3919	3.3081	3.1961	3.0608	2.9081	2.7443	2.5761

$$M_{\infty} = 3, \xi_K = 30^\circ, \alpha = 15^\circ$$

ξ	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.55	1.1110 0.4421 0.0000 2.2504 3.4468	1.1150 0.4458 0.0837 2.2299 3.4298	1.1268 0.4569 0.1647 2.1699 3.3799	1.1463 0.4750 0.2404 2.0747 3.2989	1.1727 0.4994 0.3083 1.9507 3.1905	1.2053 0.5292 0.3662 1.8059 3.0592	1.2434 0.5633 0.4123 1.6489 2.9103	1.2857 0.6003 0.4450 1.4880 2.7497	1.3313 0.6385 0.4629 1.3308 2.5837
0.60	1.1190 0.4310 0.0000 2.2362 3.4312	1.1229 0.4348 0.0814 2.2162 3.4150	1.1347 0.4463 0.1660 2.1575 3.3668	1.1539 0.4649 0.2422 2.0612 3.2888	1.1799 0.4900 0.3104 1.9125 3.1839	1.2122 0.5207 0.3685 1.7503 3.0564	1.2497 0.5557 0.4144 1.6157 2.9112	1.2916 0.5935 0.4466 1.4800 2.7538	1.3366 0.6326 0.4639 1.3313 2.5901
0.65	1.1270 0.4201 0.0000 2.2213 3.4148	1.1309 0.4241 0.0851 2.2017 3.3992	1.1425 0.4359 0.1673 2.1442 3.3529	1.1614 0.4550 0.2440 2.0529 3.2776	1.1871 0.4809 0.3125 1.9337 3.1763	1.2189 0.5124 0.3706 1.7941 3.0526	1.2559 0.5482 0.4163 1.6420 2.9111	1.2972 0.5869 0.4481 1.4854 2.7568	1.3417 0.6268 0.4647 1.3313 2.5953
0.70	1.1350 0.4094 0.0000 2.2055 3.3975	1.1389 0.4135 0.0858 2.1864 3.3825	1.1502 0.4256 0.1686 2.1302 3.3380	1.1688 0.4454 0.2457 2.0404 3.2655	1.1941 0.4719 0.3145 1.9241 3.1676	1.2254 0.5042 0.3727 1.7872 3.0477	1.2619 0.5410 0.4182 1.6377 2.9098	1.3026 0.5805 0.4496 1.4833 2.7587	1.3466 0.6212 0.4655 1.3309 2.5995
0.75	1.1430 0.3989 0.0000 2.1890 3.3793	1.1468 0.4031 0.0864 2.1703 3.3649	1.1580 0.4156 0.1699 2.1155 3.3222	1.1763 0.4358 0.2475 2.0282 3.2525	1.2011 0.4631 0.3165 1.9139 3.1581	1.2319 0.4962 0.3747 1.7797 3.0419	1.2678 0.5338 0.4200 1.6328 2.9076	1.3080 0.5743 0.4509 1.4807 2.7596	1.3513 0.6158 0.4662 1.3301 2.6026
0.80	1.1511 0.3885 0.0000 2.1717 3.3602	1.1548 0.3929 0.0871 2.1534 3.3464	1.1657 0.4057 0.1711 2.1000 3.3055	1.1837 0.4265 0.2492 2.0147 3.2385	1.2081 0.4544 0.3185 1.9031 3.1475	1.2383 0.4884 0.3767 1.7715 3.0351	1.2737 0.5269 0.4218 1.6273 2.9044	1.3131 0.5682 0.4522 1.4776 2.7596	1.3559 0.6105 0.4668 1.3288 2.6049
0.85	1.1591 0.3783 0.0000 2.1536 3.3402	1.1627 0.3828 0.0878 2.1359 3.3270	1.1735 0.3959 0.1724 2.0837 3.2879	1.1911 0.4173 0.2509 2.0006 3.2237	1.2150 0.4459 0.3204 1.8915 3.1361	1.2447 0.4807 0.3787 1.7628 3.0273	1.2794 0.5200 0.4235 1.6214 2.9003	1.3182 0.5623 0.4535 1.4740 2.7586	1.3604 0.6053 0.4674 1.3271 2.6063
0.90	1.1672 0.3682 0.0000 2.1348 3.3193	1.1708 0.3728 0.0884 2.1175 3.3068	1.1813 0.3862 0.1736 2.0668 3.2694	1.1984 0.4081 0.2525 1.9858 3.2079	1.2219 0.4375 0.3223 1.8793 3.1237	1.2510 0.4731 0.3806 1.7535 3.0187	1.2851 0.5133 0.4252 1.6148 2.8953	1.3232 0.5564 0.4547 1.4700 2.7568	1.3648 0.6003 0.4680 1.3250 2.6068
0.95	1.1754 0.3582 0.0000 2.1152 3.2975	1.1789 0.3628 0.0891 2.0984 3.2856	1.1891 0.3767 0.1748 2.0491 3.2499	1.2059 0.3991 0.2542 1.9703 3.1912	1.2289 0.4292 0.3242 1.8665 3.1104	1.2573 0.4656 0.3825 1.7436 3.0091	1.2907 0.5067 0.4268 1.6078 2.8894	1.3282 0.5507 0.4559 1.4655 2.7541	1.3691 0.5953 0.4685 1.3225 2.6065
1.00	1.1837 0.3482 0.0000 2.0948 3.2748	1.1870 0.3530 0.0897 2.0785 3.2635	1.1970 0.3671 0.1760 2.0306 3.2296	1.2134 0.3901 0.2558 1.9540 3.1736	1.2358 0.4209 0.3261 1.8530 3.0962	1.2636 0.4581 0.3843 1.7331 2.9986	1.2963 0.5002 0.4285 1.6002 2.8826	1.3331 0.5450 0.4570 1.4605 2.7505	1.3733 0.5905 0.4690 1.3196 2.6055
F_x	0.8329	0.8338	0.8366	0.8411	0.8474	0.8553	0.8648	0.8755	0.8869

$$M_{\infty} = 3, \beta_{\kappa} = 30^{\circ}, \alpha = 15^{\circ}$$

ξ	θ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.00	1.2366	1.2766	1.3155	1.3513	1.3818	1.4048	1.4177	1.5553	1.4217
	0.7140	0.7371	0.7595	0.7802	0.7978	0.8111	0.8185	0.8979	0.8208
	0.4555	0.4490	0.4224	0.3719	0.2966	0.1989	0.0976	0.0000	0.0000
	1.1298	1.0003	0.8972	0.8216	0.7716	0.7423	0.7281	0.7237	0.7237
	2.1069	1.9315	1.7871	1.6782	1.6046	1.5609	1.5394	1.8256	1.5327
0.05	1.2919	1.3419	1.3918	1.4400	1.4847	1.5235	1.5504	1.5602	
	0.7317	0.7615	0.7913	0.8201	0.8468	0.8695	0.8847	0.8895	
	0.4504	0.4410	0.4122	0.3617	0.2905	0.2033	0.1059	0.0000	
	1.1384	1.0083	0.9039	0.8266	0.7746	0.7436	0.7282	0.7234	
	2.2185	2.0599	1.9343	1.8487	1.8061	1.8024	1.8172	1.8251	
0.10	1.3099	1.3608	1.4110	1.4586	1.5009	1.5350	1.5568	1.5646	
	0.7288	0.7601	0.7907	0.8197	0.8454	0.8656	0.8783	0.8823	
	0.4531	0.4436	0.4152	0.3662	0.2974	0.2109	0.1104	0.0000	
	1.1461	1.0154	0.9099	0.8309	0.7772	0.7445	0.7279	0.7226	
	2.2615	2.1058	1.9810	1.8933	1.8439	1.8256	1.8235	1.8237	
0.15	1.3227	1.3738	1.4236	1.4702	1.5106	1.5421	1.5617	1.5686	
	0.7237	0.7558	0.7869	0.8157	0.8407	0.8599	0.8720	0.8758	
	0.4558	0.4461	0.4180	0.3696	0.3013	0.2142	0.1120	0.0000	
	1.1530	1.0218	0.9152	0.8347	0.7793	0.7450	0.7272	0.7215	
	2.2936	2.1389	2.0128	1.9212	1.8645	1.8362	1.8250	1.8217	
0.20	1.3330	1.3839	1.4332	1.4788	1.5178	1.5477	1.5661	1.5725	
	0.7179	0.7505	0.7818	0.8105	0.8351	0.8540	0.8659	0.8698	
	0.4581	0.4481	0.4199	0.3716	0.3032	0.2156	0.1125	0.0000	
	1.1590	1.0275	0.9200	0.8380	0.7809	0.7451	0.7262	0.7201	
	2.3194	2.1649	2.0369	1.9409	1.8777	1.8418	1.8247	1.8191	
0.25	1.3418	1.3922	1.4410	1.4858	1.5238	1.5526	1.5701	1.5762	
	0.7117	0.7449	0.7764	0.8049	0.8293	0.8481	0.8601	0.8640	
	0.4600	0.4495	0.4209	0.3724	0.3038	0.2158	0.1124	0.0000	
	1.1644	1.0326	0.9241	0.8408	0.7820	0.7447	0.7248	0.7183	
	2.3409	2.1863	2.0561	1.9558	1.8868	1.8448	1.8231	1.8159	
0.30	1.3494	1.3995	1.4477	1.4919	1.5291	1.5571	1.5741	1.5799	
	0.7055	0.7392	0.7709	0.7994	0.8237	0.8424	0.8545	0.8585	
	0.4615	0.4505	0.4214	0.3725	0.3036	0.2153	0.1120	0.0000	
	1.1690	1.0371	0.9277	0.8430	0.7828	0.7440	0.7231	0.7163	
	2.3591	2.2041	2.0717	1.9674	1.8932	1.8460	1.8208	1.8123	
0.35	1.3563	1.4059	1.4537	1.4973	1.5339	1.5614	1.5779	1.5836	
	0.6994	0.7335	0.7654	0.7939	0.8181	0.8369	0.8491	0.8532	
	0.4627	0.4510	0.4213	0.3720	0.3028	0.2145	0.1114	0.0000	
	1.1730	1.0409	0.9308	0.8449	0.7831	0.7429	0.7212	0.7140	
	2.3748	2.2193	2.0847	1.9765	1.8977	1.8460	1.8177	1.8081	
0.40	1.3625	1.4117	1.4590	1.5022	1.5384	1.5654	1.5817	1.5873	
	0.6934	0.7280	0.7601	0.7886	0.8128	0.8316	0.8439	0.8480	
	0.4636	0.4511	0.4208	0.3710	0.3016	0.2133	0.1107	0.0000	
	1.1765	1.0443	0.9335	0.8462	0.7830	0.7416	0.7189	0.7114	
	2.3883	2.2323	2.0955	1.9838	1.9006	1.8449	1.8139	1.8034	
0.45	1.3683	1.4170	1.4640	1.5068	1.5426	1.5694	1.5855	1.5910	
	0.6875	0.7226	0.7549	0.7835	0.8076	0.8264	0.8388	0.8429	
	0.4642	0.4510	0.4200	0.3698	0.3001	0.2120	0.1099	0.0000	
	1.1793	1.0472	0.9357	0.8473	0.7826	0.7399	0.7163	0.7086	
	2.4000	2.2435	2.1047	1.9895	1.9024	1.8430	1.8096	1.7983	
0.50	1.3737	1.4220	1.4685	1.5111	1.5467	1.5733	1.5892	1.5947	
	0.6819	0.7174	0.7500	0.7786	0.8026	0.8214	0.8338	0.8379	
	0.4647	0.4507	0.4190	0.3683	0.2984	0.2106	0.1090	0.0000	
	1.1817	1.0496	0.9375	0.8479	0.7819	0.7379	0.7135	0.7055	
	2.4100	2.2531	2.1123	1.9940	1.9031	1.8404	1.8047	1.7926	

$$M_{\infty} = 3, \varphi_{\kappa} = 30^{\circ}, \alpha = 15^{\circ}$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.55	1.3788 0.6764 0.4650 1.1836 2.4187	1.4266 0.7124 0.4502 1.0516 2.2614	1.4728 0.7452 0.4178 0.9389 2.1188	1.5151 0.7738 0.3666 0.8482 1.9974	1.5506 0.7978 0.2966 0.7808 1.9029	1.5772 0.8165 0.2091 0.7356 1.8370	1.5930 0.8288 0.1082 0.7104 1.7992	1.5985 0.8330 0.0000 0.7021 1.7865	
0.60	1.3836 0.6712 0.4652 1.1850 2.4261	1.4310 0.7076 0.4496 1.0532 2.2685	1.4769 0.7406 0.4164 0.9400 2.1241	1.5190 0.7692 0.3617 0.8482 1.9999	1.5545 0.7931 0.2947 0.7795 1.9020	1.5810 0.8117 0.2075 0.7330 1.8330	1.5969 0.8239 0.1073 0.7070 1.7932	1.6024 0.8280 0.0000 0.6984 1.7797	
0.65	1.3881 0.6661 0.4652 1.1860 2.4324	1.4351 0.7030 0.4488 1.0545 2.2745	1.4808 0.7362 0.4149 0.9408 2.1285	1.5228 0.7648 0.3628 0.8479 2.0015	1.5583 0.7886 0.2927 0.7778 1.9003	1.5849 0.8069 0.2059 0.7301 1.8283	1.6008 0.8190 0.1064 0.7033 1.7866	1.6063 0.8231 0.0000 0.6944 1.7725	
0.70	1.3925 0.6611 0.4652 1.1867 2.4377	1.4391 0.6985 0.4480 1.0554 2.2796	1.4845 0.7320 0.4133 0.9412 2.1321	1.5264 0.7606 0.3608 0.8473 2.0024	1.5620 0.7841 0.2906 0.7759 1.8980	1.5887 0.8022 0.2042 0.7269 1.8231	1.6048 0.8141 0.1055 0.6992 1.7793	1.6104 0.8181 0.0000 0.6900 1.7646	
0.75	1.3967 0.6564 0.4651 1.1869 2.4421	1.4429 0.6942 0.4470 1.0559 2.2838	1.4881 0.7279 0.4117 0.9414 2.1348	1.5300 0.7564 0.3587 0.8465 2.0026	1.5657 0.7797 0.2886 0.7737 1.8951	1.5927 0.7975 0.2025 0.7234 1.8172	1.6090 0.8091 0.1045 0.6948 1.7715	1.6146 0.8131 0.0000 0.6854 1.7560	
0.80	1.4008 0.6517 0.4650 1.1868 2.4455	1.4466 0.6900 0.4461 1.0562 2.2872	1.4915 0.7239 0.4100 0.9413 2.1369	1.5335 0.7524 0.3566 0.8454 2.0022	1.5694 0.7751 0.2864 0.7712 1.8915	1.5967 0.7928 0.2009 0.7196 1.8106	1.6132 0.8041 0.1036 0.6901 1.7629	1.6189 0.8080 0.0000 0.6803 1.7467	
0.85	1.4047 0.6472 0.4648 1.1863 2.4482	1.4501 0.6860 0.4450 1.0562 2.2899	1.4949 0.7201 0.4083 0.9410 2.1383	1.5369 0.7485 0.3545 0.8440 2.0012	1.5731 0.7712 0.2843 0.7684 1.8874	1.6008 0.7881 0.1991 0.7154 1.8034	1.6177 0.7990 0.1026 0.6849 1.7535	1.6235 0.8027 0.0000 0.6748 1.7366	
0.90	1.4086 0.6429 0.4645 1.1854 2.4501	1.4536 0.6821 0.4440 1.0558 2.2919	1.4982 0.7164 0.4066 0.9403 2.1392	1.5403 0.7447 0.3523 0.8424 1.9997	1.5769 0.7670 0.2821 0.7654 1.8826	1.6050 0.7833 0.1974 0.7109 1.7955	1.6223 0.7938 0.1017 0.6793 1.7433	1.6283 0.7973 0.0000 0.6688 1.7256	
0.95	1.4123 0.6386 0.4643 1.1843 2.4512	1.4570 0.6783 0.4429 1.0552 2.2933	1.5014 0.7128 0.4048 0.9395 2.1395	1.5436 0.7410 0.3501 0.8406 1.9976	1.5807 0.7628 0.2799 0.7620 1.8773	1.6094 0.7785 0.1956 0.7059 1.7867	1.6272 0.7883 0.1007 0.6731 1.7320	1.6334 0.7916 0.0000 0.6622 1.7133	
1.00	1.4160 0.6344 0.4640 1.1828 2.4516	1.4603 0.6746 0.4418 1.0543 2.2940	1.5045 0.7093 0.4030 0.9384 2.1392	1.5470 0.7374 0.3479 0.8385 1.9950	1.5845 0.7586 0.2777 0.7584 1.8713	1.6140 0.7735 0.1939 0.7004 1.7771	1.6325 0.7826 0.0997 0.6663 1.7195	1.6389 0.7857 0.0000 0.6548 1.6997	
F_x	0.8986	0.9097	0.9193	0.9263	0.9304	0.9314	0.9312	0.9307	

$$M_{\infty} = 3, \beta_{\kappa} = 35^{\circ}, \alpha = 5^{\circ}$$

ξ	θ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.00	1.0589	1.0600	1.0633	1.0687	1.0761	1.0851	1.0956	1.1070	1.1190
	0.7414	0.7422	0.7445	0.7483	0.7535	0.7598	0.7671	0.7751	0.7835
	0.0000	0.0248	0.0488	0.0711	0.0910	0.1077	0.1205	0.1289	0.1324
	2.0649	2.0579	2.0375	2.0048	1.9614	1.9097	1.8523	1.7918	1.7310
0.05	3.3388	3.3308	3.3072	3.2691	3.2184	3.1576	3.0895	3.0171	2.9436
	1.0681	1.0698	1.0748	1.0830	1.0941	1.1078	1.1238	1.1415	1.1603
	0.7284	0.7296	0.7332	0.7391	0.7470	0.7569	0.7683	0.7810	0.7944
	0.0000	0.0264	0.0519	0.0756	0.0967	0.1144	0.1280	0.1369	0.1407
0.10	2.0641	2.0572	2.0369	2.0043	1.9611	1.9096	1.8523	1.7919	1.7312
	3.3379	3.3314	3.3123	3.2817	3.2412	3.1929	3.1393	3.0833	3.0274
	1.0771	1.0789	1.0840	1.0923	1.1036	1.1175	1.1337	1.1514	1.1703
	0.7159	0.7172	0.7209	0.7270	0.7354	0.7456	0.7574	0.7704	0.7842
0.15	0.0000	0.0274	0.0538	0.0784	0.1003	0.1187	0.1329	0.1423	0.1464
	2.0618	2.0549	2.0348	2.0023	1.9594	1.9081	1.8510	1.7908	1.7302
	3.3353	3.3290	3.3106	3.2809	3.2416	3.1946	3.1424	3.0873	3.0323
	1.0860	1.0877	1.0929	1.1013	1.1126	1.1266	1.1428	1.1605	1.1793
0.20	0.7039	0.7052	0.7091	0.7154	0.7240	0.7345	0.7466	0.7599	0.7739
	0.0000	0.0281	0.0552	0.0804	0.1029	0.1218	0.1364	0.1461	0.1504
	2.0582	2.0514	2.0313	1.9991	1.9564	1.9054	1.8486	1.7886	1.7281
	3.3311	3.3250	3.3070	3.2781	3.2397	3.1937	3.1423	3.0881	3.0334
0.25	1.0947	1.0964	1.1016	1.1100	1.1213	1.1353	1.1514	1.1691	1.1878
	0.6924	0.6938	0.6978	0.7042	0.7130	0.7238	0.7361	0.7497	0.7639
	0.0000	0.0286	0.0563	0.0820	0.1049	0.1242	0.1391	0.1490	0.1534
	2.0533	2.0466	2.0267	1.9947	1.9523	1.9016	1.8451	1.7853	1.7250
0.30	3.3255	3.3195	3.3020	3.2737	3.2360	3.1908	3.1402	3.0866	3.0323
	1.1032	1.1049	1.1101	1.1185	1.1298	1.1437	1.1598	1.1774	1.1959
	0.6814	0.6828	0.6868	0.6935	0.7024	0.7134	0.7260	0.7398	0.7542
	0.0000	0.0291	0.0572	0.0834	0.1067	0.1262	0.1414	0.1514	0.1559
0.35	2.0474	2.0407	2.0210	1.9893	1.9472	1.8968	1.8406	1.7811	1.7210
	3.3186	3.3128	3.2956	3.2678	3.2309	3.1864	3.1365	3.0834	3.0295
	1.1116	1.1133	1.1184	1.1268	1.1381	1.1519	1.1679	1.1854	1.2038
	0.6707	0.6722	0.6763	0.6831	0.6922	0.7034	0.7162	0.7302	0.7448
0.40	0.0000	0.0295	0.0580	0.0845	0.1081	0.1280	0.1433	0.1534	0.1579
	2.0405	2.0338	2.0143	1.9828	1.9410	1.8910	1.8352	1.7761	1.7162
	3.3106	3.3049	3.2880	3.2608	3.2244	3.1806	3.1314	3.0788	3.0252
	1.1199	1.1216	1.1267	1.1350	1.1462	1.1600	1.1758	1.1932	1.2115
0.45	0.6605	0.6619	0.6662	0.6731	0.6824	0.6937	0.7068	0.7209	0.7358
	0.0000	0.0299	0.0587	0.0855	0.1094	0.1294	0.1449	0.1551	0.1596
	2.0326	2.0260	2.0067	1.9655	1.9341	1.8844	1.8290	1.7702	1.7106
	3.3014	3.2958	3.2793	3.2526	3.2168	3.1737	3.1250	3.0729	3.0196
0.50	1.1280	1.1297	1.1348	1.1430	1.1542	1.1678	1.1836	1.2008	1.2189
	0.6506	0.6520	0.6563	0.6634	0.6728	0.6844	0.6976	0.7120	0.7270
	0.0000	0.0302	0.0593	0.0864	0.1105	0.1307	0.1463	0.1566	0.1611
	2.0239	2.0174	1.9982	1.9673	1.9263	1.8771	1.8220	1.7636	1.7044
0.55	3.2913	3.2858	3.2696	3.2433	3.2082	3.1657	3.1176	3.0660	3.0130
	1.1360	1.1377	1.1428	1.1509	1.1620	1.1756	1.1912	1.2083	1.2263
	0.6409	0.6424	0.6468	0.6540	0.6636	0.6753	0.6887	0.7033	0.7185
	0.0000	0.0305	0.0599	0.0872	0.1115	0.1319	0.1475	0.1579	0.1623
0.60	2.0144	2.0079	1.9890	1.9584	1.9177	1.8690	1.8143	1.7563	1.6974
	3.2803	3.2749	3.2589	3.2331	3.1986	3.1566	3.1091	3.0580	3.0053
	1.1440	1.1457	1.1507	1.1588	1.1697	1.1832	1.1987	1.2157	1.2335
	0.6316	0.6331	0.6376	0.6448	0.6546	0.6665	0.6801	0.6949	0.7102
0.65	0.0000	0.0307	0.0604	0.0879	0.1124	0.1329	0.1486	0.1590	0.1634
	2.0041	1.9978	1.9790	1.9487	1.9085	1.8602	1.8060	1.7484	1.6899
	3.2683	3.2631	3.2474	3.2221	3.1880	3.1467	3.0997	3.0491	2.9967
	1.1507	1.1524	1.1574	1.1655	1.1764	1.1899	1.2054	1.2224	1.2402

$$M_{\infty} = 3, \beta_{\infty} = 35^{\circ}, \alpha = 5^{\circ}$$

ξ	θ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.55	1.1519	1.1535	1.1585	1.1665	1.1774	1.1908	1.2061	1.2230	1.2406
	0.6225	0.6241	0.6286	0.6360	0.6459	0.6579	0.6717	0.6867	0.7022
	0.0000	0.0310	0.0608	0.0886	0.1132	0.1338	0.1496	0.1600	0.1643
	1.9932	1.9869	1.9683	1.9384	1.8986	1.8507	1.7971	1.7399	1.6817
0.60	3.2556	3.2504	3.2350	3.2101	3.1766	3.1359	3.0895	3.0393	2.9873
	1.1597	1.1613	1.1662	1.1742	1.1850	1.1982	1.2135	1.2301	1.2477
	0.6137	0.6153	0.6199	0.6273	0.6374	0.6496	0.6636	0.6787	0.6944
	0.0000	0.0312	0.0613	0.0892	0.1140	0.1347	0.1505	0.1608	0.1652
0.65	1.9816	1.9754	1.9570	1.9275	1.8881	1.8407	1.7875	1.7308	1.6730
	3.2420	3.2370	3.2219	3.1974	3.1644	3.1243	3.0785	3.0287	2.9771
	1.1674	1.1691	1.1739	1.1818	1.1925	1.2056	1.2207	1.2373	1.2546
	0.6051	0.6067	0.6113	0.6189	0.6291	0.6415	0.6556	0.6709	0.6868
0.70	0.0000	0.0314	0.0617	0.0897	0.1146	0.1354	0.1513	0.1616	0.1659
	1.9694	1.9632	1.9451	1.9159	1.8769	1.8301	1.7774	1.7212	1.6638
	3.2277	3.2227	3.2080	3.1839	3.1515	3.1119	3.0666	3.0174	2.9661
	1.1752	1.1768	1.1816	1.1894	1.2000	1.2130	1.2279	1.2443	1.2616
0.75	0.5967	0.5983	0.6030	0.6107	0.6210	0.6335	0.6478	0.6633	0.6794
	0.0000	0.0316	0.0620	0.0903	0.1153	0.1361	0.1520	0.1623	0.1666
	1.9565	1.9505	1.9326	1.9037	1.8652	1.8189	1.7667	1.7110	1.6541
	3.2127	3.2078	3.1933	3.1697	3.1378	3.0988	3.0540	3.0053	2.9544
0.80	1.1829	1.1845	1.1892	1.1969	1.2074	1.2203	1.2351	1.2513	1.2684
	0.5834	0.5900	0.5948	0.6026	0.6130	0.6257	0.6402	0.6559	0.6721
	0.0000	0.0317	0.0624	0.0907	0.1158	0.1368	0.1527	0.1630	0.1671
	1.9431	1.9371	1.9195	1.8910	1.8530	1.8072	1.7555	1.7004	1.6439
0.85	3.1970	3.1922	3.1779	3.1548	3.1233	3.0849	3.0407	2.9925	2.9419
	1.1906	1.1921	1.1968	1.2045	1.2148	1.2276	1.2422	1.2583	1.2753
	0.5803	0.5819	0.5868	0.5947	0.6052	0.6181	0.6327	0.6485	0.6649
	0.0000	0.0319	0.0627	0.0912	0.1164	0.1373	0.1533	0.1635	0.1677
0.90	1.9291	1.9232	1.9058	1.8777	1.8402	1.7949	1.7438	1.6892	1.6332
	3.1805	3.1758	3.1618	3.1390	3.1082	3.0703	3.0267	2.9790	2.9288
	1.1983	1.1998	1.2045	1.2120	1.2223	1.2348	1.2494	1.2653	1.2821
	0.5723	0.5740	0.5789	0.5869	0.5976	0.6106	0.6254	0.6413	0.6579
0.95	0.0000	0.0321	0.0630	0.0916	0.1169	0.1379	0.1538	0.1641	0.1681
	1.9146	1.9087	1.8916	1.8639	1.8268	1.7821	1.7316	1.6775	1.6220
	3.1633	3.1587	3.1450	3.1227	3.0923	3.0550	3.0120	2.9647	2.9149
	1.2060	1.2075	1.2121	1.2196	1.2297	1.2421	1.2565	1.2723	1.2890
1.00	0.5645	0.5661	0.5711	0.5792	0.5900	0.6032	0.6181	0.6342	0.6509
	0.0000	0.0322	0.0632	0.0920	0.1173	0.1384	0.1543	0.1645	0.1685
	1.8994	1.8937	1.8768	1.8495	1.8129	1.7688	1.7189	1.6653	1.6103
	3.1454	3.1409	3.1275	3.1056	3.0758	3.0390	2.9966	2.9498	2.9004
F _x	1.2137	1.2152	1.2197	1.2271	1.2371	1.2495	1.2637	1.2793	1.2959
	0.5567	0.5584	0.5634	0.5716	0.5826	0.5959	0.6110	0.6272	0.6440
	0.0000	0.0323	0.0635	0.0923	0.1178	0.1389	0.1548	0.1650	0.1689
	1.8837	1.8781	1.8614	1.8345	1.7985	1.7549	1.7056	1.6526	1.5981
F _x	3.1268	3.1224	3.1093	3.0877	3.0585	3.0223	2.9804	2.9341	2.8851
	1.2215	1.2230	1.2275	1.2347	1.2446	1.2568	1.2709	1.2864	1.3028
	0.5490	0.5507	0.5558	0.5641	0.5752	0.5886	0.6039	0.6203	0.6372
	0.0000	0.0325	0.0638	0.0927	0.1182	0.1393	0.1552	0.1654	0.1692
F _x	1.8674	1.8619	1.8455	1.8190	1.7835	1.7405	1.6918	1.6394	1.5853
	3.1075	3.1031	3.0903	3.0692	3.0404	3.0048	2.9635	2.9177	2.8691
	1.0206	1.0207	1.0211	1.0217	1.0225	1.0233	1.0242	1.0251	1.0258

$$M_{\infty} = 3, \beta_{\kappa} = 35^{\circ}, \alpha = 5^{\circ}$$

ξ	θ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.00	1.1312 0.7920 0.1308 1.6723 2.8720	1.1430 0.8003 0.1231 1.6180 2.8050	1.1539 0.8080 0.1122 1.5698 2.7451	1.1636 0.8148 0.0957 1.5290 2.6939	1.1716 0.8204 0.0754 1.4966 2.6530	1.1775 0.8245 0.0520 1.4731 2.6232	1.1812 0.8271 0.0266 1.4589 2.6051	1.2574 0.8804 0.0000 1.4536 2.7934	1.1825 0.8280 0.0000 1.4536 2.5983
0.05	1.1795 0.8082 0.1391 1.6725 2.9744	1.1986 0.8218 0.1321 1.6181 2.9263	1.2166 0.8346 0.1198 1.5698 2.8848	1.2328 0.8462 0.1026 1.5288 2.8508	1.2464 0.8558 0.0811 1.4963 2.8249	1.2567 0.8631 0.0561 1.4726 2.8068	1.2631 0.8677 0.0287 1.4584 2.7962	1.2653 0.8692 0.0000 1.4536 2.7926	
0.10	1.1894 0.7982 0.1450 1.6716 2.9794	1.2082 0.8118 0.1379 1.6171 2.9309	1.2259 0.8247 0.1253 1.5687 2.8855	1.2417 0.8361 0.1074 1.5276 2.8532	1.2548 0.8456 0.0851 1.4949 2.8256	1.2647 0.8528 0.0589 1.4711 2.8060	1.2708 0.8572 0.0302 1.4568 2.7943	1.2730 0.8586 0.0000 1.4519 2.7904	
0.15	1.1983 0.7881 0.1490 1.6695 2.9807	1.2169 0.8019 0.1418 1.6151 2.9319	1.2343 0.8148 0.1289 1.5666 2.8888	1.2498 0.8262 0.1106 1.5254 2.8525	1.2627 0.8357 0.0876 1.4925 2.8239	1.2723 0.8428 0.0607 1.4687 2.8034	1.2783 0.8472 0.0311 1.4543 2.7910	1.2803 0.8487 0.0000 1.4494 2.7868	
0.20	1.2067 0.7783 0.1520 1.6666 2.9796	1.2251 0.7922 0.1447 1.6121 2.9306	1.2423 0.8052 0.1316 1.5636 2.8870	1.2575 0.8167 0.1129 1.5223 2.8500	1.2702 0.8262 0.0895 1.4893 2.8207	1.2796 0.8333 0.0620 1.4654 2.7994	1.2855 0.8377 0.0318 1.4509 2.7866	1.2875 0.8392 0.0000 1.4460 2.7822	
0.25	1.2147 0.7687 0.1545 1.6627 2.9769	1.2329 0.7828 0.1470 1.6084 2.9277	1.2499 0.7960 0.1336 1.5598 2.8836	1.2650 0.8075 0.1147 1.5184 2.8461	1.2774 0.8171 0.0909 1.4854 2.8161	1.2868 0.8243 0.0629 1.4614 2.7942	1.2925 0.8287 0.0323 1.4468 2.7810	1.2945 0.8301 0.0000 1.4419 2.7765	
0.30	1.2224 0.7595 0.1564 1.6581 2.9727	1.2405 0.7738 0.1488 1.6038 2.9233	1.2573 0.7870 0.1353 1.5552 2.8789	1.2722 0.7987 0.1161 1.5139 2.8409	1.2845 0.8083 0.0919 1.4808 2.8104	1.2937 0.8155 0.0637 1.4566 2.7881	1.2994 0.8200 0.0326 1.4420 2.7746	1.3014 0.8215 0.0000 1.4371 2.7699	
0.35	1.2299 0.7507 0.1581 1.6527 2.9672	1.2478 0.7651 0.1504 1.5985 2.9178	1.2645 0.7784 0.1366 1.5500 2.8731	1.2793 0.7902 0.1172 1.5086 2.8347	1.2914 0.7999 0.0928 1.4755 2.8037	1.3005 0.8072 0.0643 1.4513 2.7810	1.3061 0.8116 0.0329 1.4366 2.7672	1.3081 0.8131 0.0000 1.4317 2.7625	
0.40	1.2372 0.7421 0.1595 1.6466 2.9607	1.2550 0.7566 0.1516 1.5926 2.9112	1.2716 0.7701 0.1377 1.5442 2.8663	1.2862 0.7820 0.1181 1.5028 2.8275	1.2982 0.7918 0.0935 1.4696 2.7962	1.3072 0.7991 0.0647 1.4454 2.7731	1.3128 0.8036 0.0331 1.4307 2.7591	1.3147 0.8051 0.0000 1.4257 2.7543	
0.45	1.2444 0.7337 0.1606 1.6400 2.9532	1.2621 0.7484 0.1527 1.5861 2.9036	1.2785 0.7620 0.1386 1.5377 2.8585	1.2930 0.7740 0.1188 1.4964 2.8195	1.3049 0.7839 0.0940 1.4632 2.7878	1.3138 0.7912 0.0651 1.4389 2.7644	1.3193 0.7958 0.0333 1.4242 2.7502	1.3212 0.7973 0.0000 1.4192 2.7453	
0.50	1.2515 0.7257 0.1616 1.6327 2.9448	1.2690 0.7405 0.1536 1.5790 2.8952	1.2853 0.7542 0.1394 1.5308 2.8500	1.2996 0.7663 0.1194 1.4894 2.8106	1.3115 0.7762 0.0945 1.4562 2.7786	1.3203 0.7837 0.0654 1.4319 2.7550	1.3258 0.7882 0.0335 1.4172 2.7405	1.3277 0.7897 0.0000 1.4122 2.7356	

$$M_{\infty} = 3, \xi_{\kappa} = 35^{\circ}, \alpha = 5^{\circ}$$

ξ	η							
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'
0.55	1.2585 0.7178 0.1625 1.6248 2.9355	1.2759 0.7328 0.1543 1.5714 2.8860	1.2920 0.7466 0.1400 1.5232 2.8406	1.3062 0.7588 0.1199 1.4820 2.8010	1.3180 0.7688 0.0948 1.4488 2.7687	1.3268 0.7763 0.0656 1.4245 2.7449	1.3322 0.7809 0.0336 1.4097 2.7302	1.3341 0.7824 0.0000 1.4047 2.7252
0.60	1.2654 0.7102 0.1632 1.6165 2.9255	1.2826 0.7253 0.1550 1.5632 2.8760	1.2986 0.7392 0.1405 1.5152 2.8305	1.3128 0.7515 0.1203 1.4740 2.7907	1.3245 0.7616 0.0951 1.4409 2.7582	1.3332 0.7691 0.0658 1.4166 2.7341	1.3386 0.7737 0.0337 1.4018 2.7193	1.3404 0.7752 0.0000 1.3967 2.7142
0.65	1.2722 0.7027 0.1639 1.6076 2.9147	1.2893 0.7180 0.1555 1.5546 2.8652	1.3052 0.7320 0.1410 1.5068 2.8196	1.3193 0.7444 0.1207 1.4656 2.7797	1.3309 0.7545 0.0953 1.4325 2.7469	1.3396 0.7620 0.0659 1.4082 2.7226	1.3449 0.7667 0.0337 1.3934 2.7077	1.3468 0.7683 0.0000 1.3884 2.7026
0.70	1.2790 0.6954 0.1645 1.5982 2.9032	1.2960 0.7108 0.1560 1.5455 2.8538	1.3118 0.7249 0.1413 1.4978 2.8081	1.3257 0.7374 0.1209 1.4568 2.7680	1.3373 0.7476 0.0955 1.4237 2.7350	1.3459 0.7552 0.0660 1.3994 2.7105	1.3512 0.7598 0.0338 1.3846 2.6955	1.3531 0.7614 0.0000 1.3795 2.6903
0.75	1.2857 0.6882 0.1650 1.5884 2.8910	1.3026 0.7038 0.1564 1.5359 2.8416	1.3183 0.7180 0.1416 1.4884 2.7959	1.3322 0.7305 0.1211 1.4475 2.7556	1.3437 0.7408 0.0956 1.4144 2.7225	1.3523 0.7484 0.0661 1.3901 2.6978	1.3575 0.7531 0.0338 1.3753 2.6826	1.3594 0.7547 0.0000 1.3703 2.6774
0.80	1.2925 0.6812 0.1654 1.5780 2.8780	1.3092 0.6969 0.1567 1.5259 2.8288	1.3248 0.7112 0.1419 1.4786 2.7830	1.3386 0.7238 0.1213 1.4377 2.7426	1.3500 0.7341 0.0957 1.4047 2.7093	1.3586 0.7417 0.0662 1.3804 2.6844	1.3639 0.7464 0.0338 1.3656 2.6691	1.3657 0.7480 0.0000 1.3606 2.6639
0.85	1.2992 0.6743 0.1658 1.5672 2.8644	1.3158 0.6901 0.1570 1.5153 2.8153	1.3313 0.7045 0.1421 1.4682 2.7695	1.3451 0.7171 0.1214 1.4275 2.7289	1.3565 0.7275 0.0958 1.3946 2.6955	1.3650 0.7351 0.0662 1.3703 2.6704	1.3702 0.7399 0.0338 1.3555 2.6550	1.3721 0.7415 0.0000 1.3505 2.6497
0.90	1.3059 0.6675 0.1661 1.5559 2.8501	1.3224 0.6833 0.1573 1.5044 2.8011	1.3379 0.6979 0.1422 1.4575 2.7552	1.3516 0.7106 0.1215 1.4169 2.7146	1.3629 0.7209 0.0958 1.3840 2.6809	1.3714 0.7286 0.0662 1.3597 2.6557	1.3767 0.7334 0.0338 1.3449 2.6401	1.3785 0.7349 0.0000 1.3399 2.6348
0.95	1.3127 0.6608 0.1664 1.5442 2.8351	1.3291 0.6767 0.1575 1.4929 2.7862	1.3445 0.6913 0.1424 1.4462 2.7403	1.3581 0.7040 0.1216 1.4057 2.6995	1.3694 0.7144 0.0959 1.3729 2.6657	1.3779 0.7221 0.0662 1.3486 2.6403	1.3831 0.7269 0.0338 1.3338 2.6246	1.3849 0.7285 0.0000 1.3288 2.6192
1.00	1.3195 0.6541 0.1667 1.5319 2.8194	1.3358 0.6701 0.1576 1.4809 2.7705	1.3511 0.6848 0.1425 1.4344 2.7246	1.3647 0.6975 0.1216 1.3941 2.6837	1.3760 0.7080 0.0959 1.3613 2.6497	1.3845 0.7157 0.0662 1.3371 2.6241	1.3897 0.7204 0.0338 1.3223 2.6083	1.3915 0.7220 0.0000 1.3172 2.6029
F_s	1.0263	1.0266	1.0266	1.0265	1.0262	1.0260	1.0258	1.0256

$$M_{\infty} = 3, \beta_{\kappa} = 35^{\circ}, \alpha = 10^{\circ}$$

ξ	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.00	0.9397	0.9420	0.9487	0.9598	0.9748	0.9935	1.0152	1.0393	1.0650
	0.6580	0.6596	0.6643	0.6720	0.6826	0.6957	0.7109	0.7278	0.7458
	0.0000	0.0493	0.0972	0.1422	0.1830	0.2181	0.2463	0.2662	0.2766
	2.3862	2.3706	2.3247	2.2516	2.1561	2.0441	1.9221	1.7967	1.6742
0.05	3.5661	3.5494	3.5001	3.4212	3.3169	3.1928	3.0555	2.9118	2.7686
	0.9498	0.9528	0.9619	0.9768	0.9971	1.0223	1.0519	1.0851	1.1210
	0.6438	0.6460	0.6525	0.6633	0.6780	0.6962	0.7176	0.7415	0.7673
	0.0000	0.0514	0.1012	0.1478	0.1899	0.2258	0.2543	0.2741	0.2841
0.10	2.3853	2.3698	2.3243	2.2519	2.1571	2.0458	1.9245	1.7996	1.6773
	3.5651	3.5505	3.5076	3.4390	3.3485	3.2413	3.1235	3.0016	2.8823
	0.9596	0.9628	0.9722	0.9876	1.0086	1.0346	1.0651	1.0990	1.1356
	0.6301	0.6325	0.6395	0.6510	0.6667	0.6860	0.7086	0.7337	0.7606
0.15	0.0000	0.0528	0.1039	0.1518	0.1950	0.2319	0.2613	0.2818	0.2924
	2.3826	2.3673	2.3223	2.2505	2.1566	2.0462	1.9256	1.8013	1.6793
	3.5622	3.5483	3.5073	3.4416	3.3549	3.2521	3.1387	3.0210	2.9052
	0.9693	0.9725	0.9821	0.9977	1.0191	1.0455	1.0762	1.1105	1.1471
0.20	0.6171	0.6196	0.6269	0.6390	0.6553	0.6755	0.6990	0.7249	0.7526
	0.0000	0.0539	0.1061	0.1550	0.1991	0.2368	0.2668	0.2878	0.2988
	2.3783	2.3632	2.3187	2.2477	2.1547	2.0452	1.9255	1.8018	1.6802
	3.5576	3.5442	3.5048	3.4415	3.3578	3.2582	3.1481	3.0334	2.9198
0.25	0.9788	0.9821	0.9917	1.0075	1.0289	1.0555	1.0863	1.1206	1.1573
	0.6046	0.6071	0.6148	0.6273	0.6443	0.6651	0.6893	0.7159	0.7441
	0.0000	0.0548	0.1080	0.1578	0.2025	0.2409	0.2713	0.2927	0.3040
	2.3726	2.3577	2.3137	2.2435	2.1515	2.0430	1.9243	1.8013	1.6802
0.30	3.5515	3.5386	3.5005	3.4392	3.3581	3.2614	3.1541	3.0417	2.9298
	0.9882	0.9914	1.0011	1.0169	1.0384	1.0649	1.0958	1.1300	1.1665
	0.5925	0.5952	0.6031	0.6160	0.6335	0.6550	0.6797	0.7070	0.7357
	0.0000	0.0557	0.1096	0.1601	0.2056	0.2444	0.2753	0.2969	0.3083
0.35	2.3656	2.3508	2.3074	2.2381	2.1471	2.0398	1.9220	1.7999	1.6793
	3.5441	3.5315	3.4946	3.4353	3.3565	3.2623	3.1575	3.0472	2.9367
	0.9973	1.0006	1.0102	1.0260	1.0475	1.0740	1.1047	1.1388	1.1751
	0.5809	0.5837	0.5918	0.6051	0.6231	0.6451	0.6704	0.6982	0.7274
0.40	0.0000	0.0565	0.1111	0.1623	0.2083	0.2476	0.2787	0.3005	0.3119
	2.3574	2.3429	2.3000	2.2316	2.1417	2.0355	1.9188	1.7976	1.6776
	3.5353	3.5232	3.4874	3.4298	3.3532	3.2614	3.1589	3.0505	2.9413
	1.0064	1.0096	1.0192	1.0349	1.0563	1.0827	1.1133	1.1472	1.1833
0.45	0.5698	0.5726	0.5809	0.5946	0.6130	0.6355	0.6614	0.6896	0.7193
	0.0000	0.0572	0.1125	0.1643	0.2107	0.2504	0.2817	0.3037	0.3150
	2.3482	2.3338	2.2916	2.2241	2.1353	2.0303	1.9147	1.7944	1.6752
	3.5254	3.5136	3.4789	3.4230	3.3485	3.2589	3.1585	3.0519	2.9439
0.50	1.0153	1.0185	1.0281	1.0437	1.0649	1.0912	1.1216	1.1553	1.1910
	0.5590	0.5618	0.5704	0.5844	0.6032	0.6262	0.6525	0.6813	0.7114
	0.0000	0.0578	0.1138	0.1660	0.2130	0.2529	0.2845	0.3064	0.3177
	2.3379	2.3238	2.2822	2.2156	2.1280	2.0242	1.9098	1.7906	1.6720
0.55	3.5144	3.5030	3.4693	3.4150	3.3425	3.2551	3.1567	3.0518	2.9448
	1.0241	1.0273	1.0368	1.0523	1.0734	1.0994	1.1296	1.1630	1.1985
	0.5485	0.5515	0.5602	0.5745	0.5937	0.6171	0.6440	0.6732	0.7037
	0.0000	0.0584	0.1149	0.1677	0.2150	0.2553	0.2870	0.3089	0.3200
0.60	2.3267	2.3128	2.2718	2.2062	2.1198	2.0173	1.9041	1.7860	1.6682
	3.5023	3.4913	3.4587	3.4059	3.3353	3.2500	3.1536	3.0502	2.9444
	1.0328	1.0360	1.0454	1.0608	1.0817	1.1075	1.1374	1.1705	1.2057
	0.5384	0.5414	0.5503	0.5649	0.5845	0.6084	0.6357	0.6653	0.6962
0.65	0.0000	0.0590	0.1160	0.1693	0.2169	0.2574	0.2892	0.3111	0.3221
	2.3147	2.3010	2.2607	2.1961	2.1108	2.0097	1.8978	1.7807	1.6638
	3.4894	3.4787	3.4471	3.3958	3.3271	3.2437	3.1492	3.0475	2.9427

$$M_{\infty} = 3, \beta_{\kappa} = 35^{\circ}, \alpha = 10^{\circ}$$

ξ	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.55	1.0414 0.5285 0.0000 2.3019 3.4756	1.0446 0.5316 0.0595 2.2884 3.4652	1.0539 0.5407 0.1171 2.2487 3.4345	1.0691 0.5556 0.1707 2.1851 3.3847	1.0898 0.5755 0.2187 2.1012 3.3178	1.1154 0.5998 0.2594 2.0013 3.2364	1.1450 0.6276 0.2913 1.8908 3.1438	1.1778 0.6577 0.3131 1.7748 3.0436	1.2127 0.6889 0.3239 1.6588 2.9399
0.60	1.0500 0.5189 0.0000 2.2883 3.4609	1.0531 0.5221 0.0600 2.2750 3.4508	1.0623 0.5314 0.1180 2.2360 3.4211	1.0774 0.5465 0.1721 2.1735 3.3728	1.0978 0.5668 0.2204 2.0908 3.3076	1.1231 0.5915 0.2613 1.9923 3.2282	1.1525 0.6197 0.2932 1.8831 3.1374	1.1850 0.6502 0.3150 1.7684 3.0387	1.2196 0.6819 0.3256 1.6532 2.9360
0.65	1.0585 0.5096 0.0000 2.2740 3.4454	1.0615 0.5128 0.0605 2.2609 3.4357	1.0706 0.5223 0.1190 2.2226 3.4069	1.0855 0.5376 0.1734 2.1611 3.3599	1.1058 0.5583 0.2220 2.0797 3.2966	1.1308 0.5835 0.2630 1.9827 3.2190	1.1598 0.6121 0.2950 1.8749 3.1301	1.1920 0.6430 0.3166 1.7614 3.0329	1.2263 0.6750 0.3270 1.6472 2.9312
0.70	1.0669 0.5005 0.0000 2.2590 3.4292	1.0699 0.5037 0.0610 2.2462 3.4198	1.0789 0.5134 0.1199 2.2086 3.3918	1.0936 0.5290 0.1747 2.1481 3.3463	1.1136 0.5500 0.2235 2.0681 3.2847	1.1383 0.5756 0.2646 1.9725 3.2090	1.1670 0.6046 0.2966 1.8661 3.1218	1.1989 0.6359 0.3182 1.7539 3.0262	1.2328 0.6683 0.3283 1.6407 2.9255
0.75	1.0753 0.4915 0.0000 2.2433 3.4122	1.0783 0.4949 0.0614 2.2308 3.4031	1.0872 0.5047 0.1207 2.1938 3.3760	1.1017 0.5206 0.1759 2.1345 3.3319	1.1214 0.5419 0.2249 2.0558 3.2720	1.1458 0.5679 0.2662 1.9617 3.1982	1.1742 0.5973 0.2981 1.8568 3.1128	1.2057 0.6290 0.3196 1.7459 3.0186	1.2393 0.6618 0.3295 1.6337 2.9190
0.80	1.0837 0.4828 0.0000 2.2270 3.3944	1.0866 0.4852 0.0618 2.2147 3.3856	1.0954 0.4961 0.1215 2.1785 3.3595	1.1097 0.5123 0.1770 2.1203 3.3167	1.1291 0.5340 0.2263 2.0429 3.2585	1.1532 0.5603 0.2676 1.9504 3.1865	1.1812 0.5902 0.2996 1.8469 3.1029	1.2123 0.6223 0.3209 1.7373 3.0103	1.2456 0.6554 0.3306 1.6262 2.9117
0.85	1.0921 0.4742 0.0000 2.2101 3.3760	1.0950 0.4776 0.0622 2.1980 3.3675	1.1036 0.4878 0.1223 2.1625 3.3422	1.1176 0.5042 0.1781 2.1054 3.3008	1.1368 0.5262 0.2276 2.0295 3.2443	1.1606 0.5529 0.2690 1.9385 3.1741	1.1882 0.5831 0.3009 1.8366 3.0923	1.2190 0.6157 0.3221 1.7283 3.0011	1.2519 0.6492 0.3316 1.6183 2.9037
0.90	1.1005 0.4658 0.0000 2.1925 3.3568	1.1033 0.4692 0.0626 2.1807 3.3486	1.1118 0.4795 0.1231 2.1460 3.3242	1.1256 0.4962 0.1791 2.0900 3.2841	1.1445 0.5185 0.2288 2.0155 3.2293	1.1679 0.5456 0.2704 1.9260 3.1609	1.1952 0.5763 0.3022 1.8257 3.0809	1.2256 0.6092 0.3232 1.7188 2.9912	1.2582 0.6430 0.3325 1.6100 2.8949
0.95	1.1089 0.4574 0.0000 2.1743 3.3369	1.1117 0.4610 0.0630 2.1628 3.3290	1.1200 0.4714 0.1238 2.1288 3.3054	1.1336 0.4883 0.1801 2.0739 3.2667	1.1522 0.5110 0.2300 2.0009 3.2135	1.1752 0.5385 0.2716 1.9130 3.1470	1.2021 0.5695 0.3034 1.8143 3.0687	1.2321 0.6028 0.3243 1.7089 2.9806	1.2644 0.6370 0.3333 1.6012 2.8854
1.00	1.1173 0.4492 0.0000 2.1555 3.3162	1.1200 0.4528 0.0634 2.1442 3.3086	1.1282 0.4634 0.1245 2.1109 3.2859	1.1416 0.4806 0.1811 2.0573 3.2485	1.1598 0.5036 0.2312 1.9857 3.1970	1.1825 0.5314 0.2728 1.8995 3.1323	1.2090 0.5628 0.3046 1.8023 3.0558	1.2387 0.5965 0.3253 1.6984 2.9692	1.2706 0.6311 0.3340 1.5920 2.8751
F_x	1.0337	1.0341	1.0353	1.0372	1.0397	1.0427	1.0458	1.0489	1.0515

$$M_{\infty} = 3, \beta_{\kappa} = 35^{\circ}, \alpha = 10^{\circ}$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.00	1.0914 0.7642 0.2763 1.5600 2.6323	1.1175 0.7825 0.2644 1.4581 2.5084	1.1420 0.7996 0.2407 1.3716 2.4011	1.1637 0.8149 0.2055 1.3019 2.3134	1.1816 0.8274 0.1611 1.2494 2.2463	1.1947 0.8365 0.1101 1.2131 2.1995	1.2026 0.8421 0.0561 1.1921 2.1722	1.3372 0.9363 0.0000 1.1851 2.4872	1.2053 0.8440 0.0000 1.1851 2.1631
0.05	1.1586 0.7942 0.2834 1.5629 2.7721	1.1968 0.8216 0.2713 1.4607 2.6768	1.2341 0.8483 0.2479 1.3736 2.6007	1.2692 0.8732 0.2136 1.3032 2.5464	1.2998 0.8949 0.1699 1.2500 2.5127	1.3238 0.9118 0.1181 1.2132 2.4954	1.3390 0.9225 0.0609 1.1918 2.4884	1.3445 0.9260 0.0000 1.1846 2.4864	
0.10	1.1735 0.7884 0.2923 1.5649 2.7973	1.2116 0.8162 0.2807 1.4624 2.7025	1.2482 0.8428 0.2577 1.3748 2.6249	1.2819 0.8671 0.2233 1.3038 2.5663	1.3107 0.8877 0.1786 1.2498 2.5262	1.3327 0.9035 0.1248 1.2124 2.5015	1.3465 0.9133 0.0645 1.1906 2.4886	1.3513 0.9165 0.0000 1.1832 2.4344	
0.15	1.1850 0.7809 0.2990 1.5659 2.8130	1.2228 0.8090 0.2876 1.4632 2.7181	1.2589 0.8356 0.2645 1.3751 2.6387	1.2916 0.8596 0.2297 1.3035 2.5768	1.3193 0.8798 0.1840 1.2489 2.5322	1.3403 0.8951 0.1287 1.2109 2.5030	1.3533 0.9047 0.0665 1.1887 2.4868	1.3579 0.9078 0.0000 1.1812 2.4813	
0.20	1.1950 0.7729 0.3042 1.5661 2.8238	1.2324 0.8012 0.2928 1.4632 2.7284	1.2680 0.8279 0.2694 1.3747 2.6473	1.3000 0.8518 0.2341 1.3025 2.5827	1.3269 0.8719 0.1877 1.2473 2.5347	1.3472 0.8870 0.1313 1.2087 2.5022	1.3597 0.8964 0.0678 1.1861 2.4836	1.3641 0.8995 0.0000 1.1785 2.4773	
0.25	1.2040 0.7649 0.3085 1.5654 2.8313	1.2411 0.7934 0.2969 1.4625 2.7354	1.2762 0.8202 0.2732 1.3736 2.6528	1.3077 0.8442 0.2374 1.3009 2.5857	1.3340 0.8541 0.1903 1.2451 2.5349	1.3538 0.8792 0.1330 1.2059 2.4998	1.3659 0.8886 0.0686 1.1830 2.4794	1.3702 0.8917 0.0000 1.1752 2.4724	
0.30	1.2123 0.7569 0.3120 1.5640 2.8362	1.2491 0.7857 0.3002 1.4610 2.7399	1.2838 0.8127 0.2762 1.3719 2.6559	1.3148 0.8367 0.2399 1.2987 2.5867	1.3407 0.8566 0.1921 1.2423 2.5335	1.3601 0.8717 0.1343 1.2027 2.4962	1.3720 0.8812 0.0692 1.1794 2.4742	1.3762 0.8842 0.0000 1.1714 2.4667	
0.35	1.2202 0.7492 0.3150 1.5619 2.8392	1.2566 0.7782 0.3029 1.4589 2.7424	1.2909 0.8053 0.2785 1.3696 2.6571	1.3216 0.8294 0.2417 1.2959 2.5861	1.3471 0.8494 0.1935 1.2390 2.5308	1.3662 0.8645 0.1351 1.1989 2.4916	1.3779 0.8740 0.0696 1.1752 2.4683	1.3820 0.8771 0.0000 1.1672 2.4603	
0.40	1.2277 0.7416 0.3174 1.5591 2.8406	1.2638 0.7709 0.3050 1.4563 2.7433	1.2978 0.7982 0.2803 1.3667 2.6599	1.3281 0.8223 0.2431 1.2926 2.5842	1.3533 0.8424 0.1944 1.2352 2.5270	1.3721 0.8576 0.1357 1.1946 2.4861	1.3836 0.8671 0.0699 1.1707 2.4617	1.3877 0.8702 0.0000 1.1625 2.4533	
0.45	1.2348 0.7343 0.3196 1.5558 2.8405	1.2706 0.7638 0.3068 1.4530 2.7429	1.3043 0.7912 0.2817 1.3632 2.6554	1.3344 0.8155 0.2441 1.2888 2.5811	1.3593 0.8357 0.1951 1.2309 2.5222	1.3779 0.8509 0.1361 1.1899 2.4798	1.3893 0.8604 0.0701 1.1657 2.4544	1.3933 0.8636 0.0000 1.1575 2.4456	
0.50	1.2418 0.7271 0.3214 1.5519 2.8392	1.2773 0.7569 0.3083 1.4493 2.7412	1.3107 0.7845 0.2828 1.3594 2.6527	1.3405 0.8089 0.2449 1.2845 2.5771	1.3652 0.8292 0.1956 1.2263 2.5166	1.3836 0.8444 0.1364 1.1848 2.4728	1.3949 0.8540 0.0701 1.1603 2.4465	1.3989 0.8571 0.0000 1.1520 2.4374	

$$M_{\infty} = 3, \beta_{\infty} = 35^{\circ}, \alpha = 10^{\circ}$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.55	1.2485 0.7202 0.3229 1.5474 2.8368	1.2837 0.7502 0.3096 1.4450 2.7385	1.3168 0.7780 0.2837 1.3550 2.6491	1.3464 0.8025 0.2455 1.2799 2.5721	1.3710 0.8228 0.1959 1.2212 2.5102	1.3893 0.8381 0.1365 1.1794 2.4651	1.4005 0.8477 0.0702 1.1546 2.4379	1.4044 0.8509 0.0000 1.1462 2.4286	
0.60	1.2550 0.7134 0.3243 1.5425 2.8333	1.2900 0.7437 0.3106 1.4403 2.7348	1.3229 0.7717 0.2844 1.3502 2.6446	1.3523 0.7963 0.2458 1.2718 2.5664	1.3767 0.8166 0.1960 1.2157 2.5031	1.3949 0.8320 0.1365 1.1735 2.4568	1.4060 0.8415 0.0702 1.1485 2.4288	1.4099 0.8447 0.0000 1.1399 2.4192	
0.65	1.2614 0.7069 0.3254 1.5371 2.8289	1.2961 0.7374 0.3114 1.4352 2.7302	1.3288 0.7655 0.2849 1.3450 2.6393	1.3580 0.7902 0.2460 1.2693 2.5598	1.3823 0.8106 0.1960 1.2099 2.4953	1.4004 0.8260 0.1364 1.1673 2.4479	1.4116 0.8355 0.0701 1.1420 2.4191	1.4154 0.8387 0.0000 1.1334 2.4092	
0.70	1.2677 0.7005 0.3265 1.5312 2.8237	1.3021 0.7313 0.3121 1.4296 2.7248	1.3346 0.7595 0.2852 1.3394 2.6331	1.3637 0.7843 0.2461 1.2635 2.5526	1.3879 0.8047 0.1959 1.2036 2.4869	1.4060 0.8201 0.1363 1.1607 2.4383	1.4171 0.8297 0.0700 1.1351 2.4088	1.4209 0.8328 0.0000 1.1264 2.3987	
0.75	1.2738 0.6913 0.3273 1.5249 2.8177	1.3080 0.7253 0.3126 1.4236 2.7187	1.3403 0.7536 0.2854 1.3335 2.6263	1.3693 0.7785 0.2461 1.2573 2.5417	1.3934 0.7989 0.1958 1.1971 2.4778	1.4115 0.8143 0.1361 1.1538 2.4282	1.4226 0.8238 0.0699 1.1279 2.3980	1.4265 0.8270 0.0000 1.1191 2.3875	
0.80	1.2799 0.6882 0.3281 1.5182 2.8109	1.3138 0.7194 0.3131 1.4172 2.7118	1.3460 0.7479 0.2856 1.3271 2.6188	1.3719 0.7728 0.2460 1.2507 2.5362	1.3990 0.7933 0.1955 1.1901 2.4681	1.4171 0.8086 0.1359 1.1464 2.4174	1.4282 0.8181 0.0697 1.1203 2.3865	1.4320 0.8213 0.0000 1.1115 2.3758	
0.85	1.2859 0.6822 0.3288 1.5110 2.8034	1.3196 0.7136 0.3134 1.4105 2.7042	1.3517 0.7423 0.2856 1.3204 2.6106	1.3805 0.7672 0.2458 1.2437 2.5270	1.4046 0.7877 0.1953 1.1828 2.4578	1.4227 0.8029 0.1356 1.1387 2.4061	1.4338 0.8124 0.0695 1.1124 2.3744	1.4377 0.8156 0.0000 1.1034 2.3635	
0.90	1.2918 0.6764 0.3293 1.5035 2.7951	1.3254 0.7080 0.3136 1.4033 2.6959	1.3573 0.7368 0.2855 1.3133 2.6017	1.3861 0.7617 0.2456 1.2364 2.5172	1.4102 0.7821 0.1949 1.1751 2.4468	1.4283 0.7973 0.1353 1.1306 2.3940	1.4395 0.8067 0.0694 1.1040 2.3616	1.4434 0.8099 0.0000 1.0949 2.3505	
0.95	1.2978 0.6706 0.3298 1.4955 2.7862	1.3311 0.7025 0.3138 1.3958 2.6869	1.3629 0.7313 0.2854 1.3058 2.5922	1.3917 0.7563 0.2452 1.2287 2.5067	1.4158 0.7766 0.1945 1.1670 2.4352	1.4341 0.7917 0.1349 1.1221 2.3813	1.4453 0.8011 0.0691 1.0951 2.3482	1.4492 0.8042 0.0000 1.0859 2.3367	
1.00	1.3037 0.6650 0.3303 1.4871 2.7765	1.3368 0.6970 0.3139 1.3879 2.6773	1.3685 0.7259 0.2853 1.2980 2.5820	1.3973 0.7509 0.2449 1.2206 2.4955	1.4215 0.7711 0.1941 1.1584 2.4228	1.4399 0.7861 0.1345 1.1131 2.3678	1.4512 0.7954 0.0689 1.0858 2.3339	1.4552 0.7985 0.0000 1.0765 2.3222	
F_x	1.0535	1.0544	1.0543	1.0531	1.0513	1.0493	1.0478	1.0471	

$$M_{\infty} = 3, \beta_{\kappa} = 40^{\circ}, \alpha = 2^{\circ}30'$$

ξ	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.00	0.9136	0.9141	0.9158	0.9186	0.9223	0.9269	0.9321	0.9377	0.9437
	0.7666	0.7671	0.7685	0.7708	0.7739	0.7777	0.7821	0.7869	0.7918
	0.0000	0.0123	0.0242	0.0351	0.0448	0.0527	0.0587	0.0624	0.0638
	2.2796	2.2762	2.2663	2.2502	2.2288	2.2030	2.1740	2.1429	2.1112
0.05	3.4858	3.4821	3.4712	3.4537	3.4302	3.4018	3.3697	3.3352	3.2998
	0.9241	0.9251	0.9280	0.9327	0.9390	0.9468	0.9558	0.9657	0.9761
	0.7541	0.7550	0.7574	0.7615	0.7669	0.7736	0.7813	0.7898	0.7987
	0.0000	0.0135	0.0265	0.0385	0.0490	0.0578	0.0643	0.0685	0.0700
0.10	2.2787	2.2753	2.2654	2.2494	2.2281	2.2023	2.1733	2.1423	2.1106
	3.4848	3.4821	3.4742	3.4615	3.4447	3.4245	3.4021	3.3783	3.3543
	0.9344	0.9354	0.9383	0.9430	0.9494	0.9572	0.9662	0.9760	0.9864
	0.7424	0.7432	0.7458	0.7499	0.7555	0.7624	0.7702	0.7789	0.7879
0.15	0.0000	0.0141	0.0277	0.0403	0.0515	0.0607	0.0676	0.0721	0.0737
	2.2761	2.2728	2.2629	2.2470	2.2257	2.2000	2.1711	2.1402	2.1085
	3.4820	3.4794	3.4717	3.4593	3.4429	3.4231	3.4010	3.3776	3.3538
	0.9444	0.9453	0.9482	0.9529	0.9593	0.9671	0.9761	0.9859	0.9961
0.20	0.7312	0.7321	0.7347	0.7389	0.7446	0.7516	0.7596	0.7684	0.7775
	0.0000	0.0146	0.0287	0.0417	0.0532	0.0627	0.0700	0.0746	0.0764
	2.2721	2.2688	2.2590	2.2431	2.2219	2.1964	2.1676	2.1367	2.1051
	3.4776	3.4751	3.4675	3.4554	3.4392	3.4198	3.3979	3.3747	3.3510
0.25	0.9541	0.9551	0.9579	0.9626	0.9690	0.9767	0.9856	0.9953	1.0055
	0.7206	0.7215	0.7242	0.7285	0.7343	0.7414	0.7495	0.7583	0.7676
	0.0000	0.0150	0.0294	0.0428	0.0546	0.0644	0.0718	0.0765	0.0784
	2.2668	2.2635	2.2538	2.2380	2.2169	2.1915	2.1628	2.1320	2.1005
0.30	3.4718	3.4693	3.4619	3.4500	3.4340	3.4148	3.3932	3.3702	3.3466
	0.9635	0.9645	0.9674	0.9720	0.9783	0.9860	0.9949	1.0045	1.0146
	0.7105	0.7114	0.7141	0.7185	0.7244	0.7316	0.7398	0.7488	0.7581
	0.0000	0.0153	0.0300	0.0436	0.0557	0.0657	0.0733	0.0781	0.0800
0.35	2.2604	2.2571	2.2474	2.2317	2.2108	2.1855	2.1569	2.1263	2.0949
	3.4648	3.4623	3.4550	3.4433	3.4275	3.4086	3.3872	3.3643	3.3409
	0.9728	0.9738	0.9766	0.9812	0.9875	0.9951	1.0039	1.0135	1.0235
	0.7009	0.7018	0.7045	0.7090	0.7149	0.7222	0.7305	0.7396	0.7491
0.40	0.0000	0.0155	0.0305	0.0444	0.0566	0.0668	0.0745	0.0794	0.0814
	2.2529	2.2497	2.2400	2.2245	2.2036	2.1785	2.1501	2.1196	2.0884
	3.4566	3.4542	3.4470	3.4354	3.4199	3.4011	3.3800	3.3572	3.3339
	0.9818	0.9828	0.9856	0.9902	0.9964	1.0040	1.0127	1.0222	1.0321
0.45	0.6917	0.6926	0.6954	0.6999	0.7059	0.7133	0.7217	0.7309	0.7404
	0.0000	0.0158	0.0309	0.0450	0.0574	0.0677	0.0756	0.0806	0.0825
	2.2445	2.2413	2.2317	2.2163	2.1956	2.1706	2.1424	2.1121	2.0810
	3.4474	3.4450	3.4379	3.4265	3.4112	3.3926	3.3717	3.3491	3.3259
0.50	0.9907	0.9917	0.9945	0.9990	1.0052	1.0127	1.0213	1.0307	1.0405
	0.6829	0.6838	0.6866	0.6911	0.6972	0.7047	0.7132	0.7225	0.7321
	0.0000	0.0159	0.0313	0.0456	0.0581	0.0686	0.0765	0.0815	0.0835
	2.2353	2.2321	2.2226	2.2073	2.1868	2.1620	2.1339	2.1038	2.0729
0.55	3.4373	3.4349	3.4280	3.4167	3.4016	3.3832	3.3624	3.3401	3.3170
	0.9994	1.0004	1.0031	1.0076	1.0137	1.0212	1.0297	1.0390	1.0488
	0.6744	0.6753	0.6782	0.6827	0.6889	0.6964	0.7050	0.7144	0.7241
	0.0000	0.0161	0.0317	0.0460	0.0587	0.0693	0.0773	0.0824	0.0843
0.60	2.2254	2.2222	2.2128	2.1976	2.1772	2.1526	2.1247	2.0948	2.0640
	3.4263	3.4240	3.4171	3.4060	3.3911	3.3729	3.3524	3.3302	3.3073
	1.0080	1.0089	1.0116	1.0161	1.0222	1.0295	1.0380	1.0472	1.0569
	0.6662	0.6672	0.6700	0.6747	0.6809	0.6885	0.6972	0.7066	0.7164
0.65	0.0000	0.0163	0.0320	0.0465	0.0593	0.0699	0.0780	0.0831	0.0851
	2.2147	2.2115	2.2022	2.1872	2.1670	2.1425	2.1149	2.0852	2.0546
	3.4146	3.4123	3.4055	3.3946	3.3798	3.3619	3.3415	3.3195	3.2967

$$M_{\text{co}} = 3, \beta_{\kappa} = 40^{\circ}, \alpha = 2^{\circ}30'$$

ξ	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.55	1.0164 0.6584 0.0000 2.2034 3.4022	1.0173 0.6593 0.0164 2.2003 3.3999	1.0200 0.6622 0.0322 2.1911 3.3932	1.0245 0.6669 0.0469 2.1761 3.3824	1.0304 0.6732 0.0598 2.1561 3.3678	1.0378 0.6808 0.0705 2.1319 3.3501	1.0461 0.6896 0.0786 2.1045 3.3299	1.0553 0.6991 0.0838 2.0750 3.3081	1.0648 0.7090 0.0857 2.0446 3.2855
0.60	1.0247 0.6508 0.0000 2.1915 3.3891	1.0256 0.6517 0.0165 2.1881 3.3868	1.0283 0.6546 0.0325 2.1793 3.3803	1.0327 0.6594 0.0472 2.1645 3.3696	1.0386 0.6657 0.0602 2.1447 3.3552	1.0459 0.6734 0.0710 2.1207 3.3377	1.0542 0.6823 0.0792 2.0935 3.3177	1.0632 0.6919 0.0843 2.0642 3.2960	1.0727 0.7019 0.0863 2.0340 3.2736
0.65	1.0329 0.6434 0.0000 2.1791 3.3753	1.0338 0.6444 0.0166 2.1761 3.3731	1.0365 0.6473 0.0327 2.1670 3.3667	1.0408 0.6521 0.0475 2.1523 3.3561	1.0467 0.6585 0.0606 2.1327 3.3419	1.0538 0.6663 0.0715 2.1089 3.3246	1.0621 0.6752 0.0797 2.0819 3.3048	1.0710 0.6848 0.0849 2.0529 3.2834	1.0804 0.6949 0.0868 2.0229 3.2610
0.70	1.0410 0.6363 0.0000 2.1662 3.3610	1.0419 0.6373 0.0168 2.1632 3.3589	1.0445 0.6402 0.0329 2.1542 3.3525	1.0488 0.6450 0.0478 2.1397 3.3420	1.0546 0.6515 0.0610 2.1202 3.3280	1.0617 0.6593 0.0719 2.0967 3.3109	1.0699 0.6683 0.0801 2.0699 3.2913	1.0788 0.6780 0.0853 2.0411 3.2701	1.0881 0.6882 0.0873 2.0114 3.2479
0.75	1.0490 0.6294 0.0000 2.1528 3.3461	1.0499 0.6304 0.0168 2.1498 3.3440	1.0525 0.6333 0.0331 2.1409 3.3377	1.0568 0.6382 0.0481 2.1265 3.3274	1.0625 0.6447 0.0613 2.1073 3.3136	1.0696 0.6526 0.0723 2.0839 3.2967	1.0776 0.6616 0.0805 2.0574 3.2773	1.0864 0.6714 0.0858 2.0289 3.2562	1.0956 0.6816 0.0877 1.9993 3.2342
0.80	1.0570 0.6226 0.0000 2.1389 3.3307	1.0578 0.6236 0.0169 2.1359 3.3286	1.0604 0.6266 0.0332 2.1271 3.3224	1.0646 0.6315 0.0483 2.1129 3.3123	1.0703 0.6380 0.0616 2.0939 3.2986	1.0773 0.6460 0.0726 2.0708 3.2819	1.0853 0.6551 0.0809 2.0445 3.2627	1.0940 0.6650 0.0861 2.0162 3.2418	1.1031 0.6752 0.0881 1.9869 3.2200
0.85	1.0649 0.6160 0.0000 2.1245 3.3147	1.0657 0.6171 0.0170 2.1216 3.3127	1.0683 0.6201 0.0334 2.1129 3.3065	1.0725 0.6250 0.0485 2.0989 3.2966	1.0781 0.6316 0.0619 2.0800 3.2831	1.0850 0.6396 0.0729 2.0571 3.2665	1.0929 0.6488 0.0812 2.0311 3.2476	1.1016 0.6587 0.0865 2.0030 3.2269	1.1106 0.6690 0.0884 1.9740 3.2052
0.90	1.0727 0.6096 0.0000 2.1098 3.2983	1.0736 0.6106 0.0171 2.1069 3.2962	1.0761 0.6137 0.0335 2.0983 3.2902	1.0803 0.6186 0.0488 2.0844 3.2803	1.0858 0.6253 0.0622 2.0657 3.2670	1.0927 0.6333 0.0732 2.0431 3.2507	1.1005 0.6426 0.0816 2.0173 3.2319	1.1091 0.6525 0.0868 1.9895 3.2114	1.1180 0.6629 0.0888 1.9607 3.1899
0.95	1.0806 0.6033 0.0000 2.0945 3.2812	1.0814 0.6044 0.0172 2.0917 3.2792	1.0839 0.6074 0.0337 2.0832 3.2733	1.0880 0.6124 0.0489 2.0695 3.2636	1.0935 0.6191 0.0624 2.0510 3.2504	1.1003 0.6272 0.0735 2.0286 3.2343	1.1081 0.6365 0.0818 2.0031 3.2157	1.1166 0.6465 0.0871 1.9755 3.1954	1.1255 0.6570 0.0890 1.9470 3.1741
1.00	1.0884 0.5972 0.0000 2.0789 3.2637	1.0892 0.5982 0.0172 2.0761 3.2617	1.0917 0.6013 0.0338 2.0677 3.2559	1.0958 0.6063 0.0491 2.0541 3.2463	1.1012 0.6130 0.0626 2.0359 3.2333	1.1079 0.6212 0.0737 2.0137 3.2174	1.1156 0.6305 0.0821 1.9885 3.1990	1.1240 0.6406 0.0874 1.9612 3.1789	1.1329 0.6511 0.0893 1.9329 3.1577
F_x	1.2795	1.2794	1.2792	1.2787	1.2780	1.2772	1.2762	1.2750	1.2736

$$M_{\infty} = 3, \beta_{\kappa} = 40^{\circ}, \alpha = 2^{\circ}30'$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.00	0.9496	0.9553	0.9606	0.9653	0.9691	0.9720	0.9737	1.0221	0.9743
	0.7968	0.8016	0.8061	0.8100	0.8132	0.8156	0.8170	0.8576	0.8175
	0.0626	0.0591	0.0532	0.0453	0.0356	0.0245	0.0125	0.0000	0.0000
	2.0799	2.0504	2.0236	2.0005	1.9818	1.9680	1.9596	1.9568	1.9568
	3.2849	3.2317	3.2015	3.1753	3.1541	3.1384	3.1289	3.2461	3.1256
0.05	0.9866	0.9969	1.0065	1.0150	1.0221	1.0274	1.0307	1.0318	
	0.8077	0.8165	0.8247	0.8320	0.8380	0.8425	0.8453	0.8462	
	0.0689	0.0650	0.0587	0.0500	0.0394	0.0271	0.0139	0.0000	
	2.0793	2.0498	2.0230	1.9999	1.9811	1.9673	1.9589	1.9560	
	3.3312	3.3097	3.2907	3.2746	3.2618	3.2526	3.2470	3.2452	
0.10	0.9968	1.0070	1.0164	1.0248	1.0317	1.0368	1.0400	1.0411	
	0.7970	0.8059	0.8141	0.8214	0.8273	0.8318	0.8346	0.8355	
	0.0726	0.0687	0.0620	0.0529	0.0417	0.0288	0.0147	0.0000	
	2.0773	2.0477	2.0209	1.9978	1.9790	1.9652	1.9568	1.9539	
	3.3306	3.3090	3.2897	3.2732	3.2600	3.2504	3.2446	3.2426	
0.15	1.0065	1.0165	1.0258	1.0341	1.0409	1.0459	1.0491	1.0501	
	0.7867	0.7957	0.8039	0.8112	0.8172	0.8217	0.8245	0.8254	
	0.0752	0.0712	0.0643	0.0549	0.0433	0.0299	0.0153	0.0000	
	2.0739	2.0444	2.0176	1.9945	1.9757	1.9619	1.9534	1.9505	
	3.3279	3.3062	3.2866	3.2699	3.2565	3.2466	3.2407	3.2386	
0.20	1.0158	1.0257	1.0349	1.0430	1.0497	1.0547	1.0578	1.0589	
	0.7769	0.7859	0.7943	0.8016	0.8077	0.8122	0.8150	0.8159	
	0.0772	0.0731	0.0661	0.0564	0.0445	0.0307	0.0157	0.0000	
	2.0694	2.0400	2.0132	1.9901	1.9713	1.9575	1.9490	1.9461	
	3.3235	3.3018	3.2821	3.2652	3.2516	3.2416	3.2355	3.2334	
0.25	1.0248	1.0346	1.0437	1.0517	1.0583	1.0633	1.0663	1.0674	
	0.7675	0.7766	0.7850	0.7924	0.7985	0.8031	0.8059	0.8068	
	0.0788	0.0746	0.0674	0.0576	0.0454	0.0313	0.0160	0.0000	
	2.0639	2.0345	2.0078	1.9847	1.9659	1.9521	1.9437	1.9408	
	3.3178	3.2960	3.2763	3.2593	3.2455	3.2353	3.2292	3.2270	
0.30	1.0335	1.0432	1.0522	1.0602	1.0667	1.0716	1.0746	1.0756	
	0.7586	0.7678	0.7762	0.7837	0.7898	0.7944	0.7972	0.7982	
	0.0802	0.0759	0.0686	0.0585	0.0462	0.0319	0.0163	0.0000	
	2.0575	2.0282	2.0016	1.9785	1.9597	1.9459	1.9375	1.9346	
	3.3109	3.2891	3.2693	3.2522	3.2383	3.2281	3.2218	3.2197	
0.35	1.0420	1.0517	1.0606	1.0684	1.0749	1.0797	1.0827	1.0837	
	0.7500	0.7593	0.7678	0.7753	0.7815	0.7861	0.7890	0.7899	
	0.0813	0.0769	0.0695	0.0593	0.0468	0.0323	0.0165	0.0000	
	2.0503	2.0211	1.9945	1.9715	1.9528	1.9390	1.9305	1.9276	
	3.3030	3.2812	3.2614	3.2442	3.2302	3.2199	3.2136	3.2114	
0.40	1.0504	1.0599	1.0687	1.0765	1.0829	1.0876	1.0906	1.0916	
	0.7418	0.7511	0.7597	0.7673	0.7735	0.7782	0.7810	0.7820	
	0.0822	0.0778	0.0703	0.0600	0.0473	0.0327	0.0167	0.0000	
	2.0423	2.0132	1.9867	1.9638	1.9451	1.9313	1.9229	1.9200	
	3.2942	3.2724	3.2526	3.2353	3.2213	3.2109	3.2046	3.2024	
0.45	1.0585	1.0680	1.0767	1.0844	1.0907	1.0954	1.0983	1.0994	
	0.7339	0.7433	0.7520	0.7596	0.7659	0.7705	0.7734	0.7744	
	0.0831	0.0786	0.0710	0.0606	0.0478	0.0330	0.0169	0.0000	
	2.0336	2.0047	1.9783	1.9554	1.9368	1.9230	1.9146	1.9118	
	3.2845	3.2628	3.2429	3.2257	3.2116	3.2011	3.1947	3.1925	
0.50	1.0665	1.0759	1.0845	1.0922	1.0984	1.1031	1.1060	1.1070	
	0.7263	0.7358	0.7445	0.7522	0.7585	0.7632	0.7661	0.7671	
	0.0838	0.0793	0.0716	0.0611	0.0482	0.0332	0.0170	0.0000	
	2.0243	1.9955	1.9693	1.9465	1.9279	1.9142	1.9058	1.9029	
	3.2741	3.2524	3.2326	3.2152	3.2011	3.1906	3.1842	3.1820	

$$M_{\infty} = 3, \beta_k = 40^\circ, \alpha = 2^\circ 30'$$

ξ	θ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.55	1.0744 0.7189 0.0844 2.0145 3.2629	1.0837 0.7285 0.0798 1.9858 3.2413	1.0923 0.7373 0.0721 1.9597 3.2215	1.0998 0.7450 0.0615 1.9370 3.2042	1.1060 0.7514 0.0485 1.9185 3.1900	1.1106 0.7561 0.0335 1.9048 3.1795	1.1135 0.7590 0.0171 1.8965 3.1730	1.1145 0.7600 0.0000 1.8936 3.1708	
0.60	1.0822 0.7118 0.0850 2.0041 3.2511	1.0914 0.7215 0.0804 1.9756 3.2296	1.0999 0.7303 0.0726 1.9496 3.2098	1.1073 0.7381 0.0619 1.9270 3.1925	1.1135 0.7445 0.0488 1.9085 3.1783	1.1181 0.7493 0.0337 1.8949 3.1677	1.1209 0.7522 0.0172 1.8866 3.1613	1.1219 0.7532 0.0000 1.8837 3.1590	
0.65	1.0898 0.7050 0.0855 1.9932 3.2387	1.0989 0.7147 0.0808 1.9649 3.2173	1.1074 0.7236 0.0730 1.9390 3.1975	1.1148 0.7314 0.0623 1.9165 3.1802	1.1209 0.7379 0.0491 1.8981 3.1660	1.1254 0.7426 0.0338 1.8846 3.1554	1.1282 0.7456 0.0173 1.8763 3.1489	1.1292 0.7466 0.0000 1.8734 3.1467	
0.70	1.0974 0.6983 0.0859 1.9818 3.2257	1.1064 0.7080 0.0812 1.9537 3.2043	1.1148 0.7170 0.0733 1.9280 3.1846	1.1221 0.7249 0.0626 1.9056 3.1673	1.1282 0.7314 0.0493 1.8873 3.1531	1.1327 0.7362 0.0340 1.8738 3.1425	1.1355 0.7392 0.0174 1.8655 3.1360	1.1364 0.7402 0.0000 1.8627 3.1338	
0.75	1.1049 0.6918 0.0863 1.9700 3.2121	1.1138 0.7016 0.0816 1.9421 3.1908	1.1221 0.7107 0.0737 1.9165 3.1712	1.1294 0.7186 0.0628 1.8942 3.1539	1.1354 0.7251 0.0495 1.8760 3.1397	1.1399 0.7299 0.0341 1.8626 3.1291	1.1426 0.7329 0.0174 1.8543 3.1226	1.1436 0.7339 0.0000 1.8515 3.1204	
0.80	1.1123 0.6855 0.0867 1.9578 3.1980	1.1212 0.6954 0.0819 1.9300 3.1768	1.1294 0.7044 0.0739 1.9046 3.1572	1.1366 0.7124 0.0630 1.8824 3.1399	1.1426 0.7189 0.0496 1.8643 3.1257	1.1470 0.7238 0.0342 1.8509 3.1151	1.1498 0.7268 0.0175 1.8427 3.1086	1.1507 0.7278 0.0000 1.8399 3.1064	
0.85	1.1197 0.6793 0.0870 1.9451 3.1834	1.1285 0.6892 0.0822 1.9175 3.1623	1.1367 0.6984 0.0742 1.8923 3.1427	1.1438 0.7064 0.0632 1.8702 3.1255	1.1497 0.7129 0.0498 1.8522 3.1113	1.1542 0.7178 0.0344 1.8389 3.1007	1.1569 0.7208 0.0175 1.8307 3.0942	1.1578 0.7218 0.0000 1.8279 3.0919	
0.90	1.1271 0.6733 0.0873 1.9321 3.1682	1.1358 0.6833 0.0825 1.9047 3.1472	1.1439 0.6924 0.0744 1.8795 3.1277	1.1510 0.7005 0.0634 1.8576 3.1105	1.1569 0.7071 0.0499 1.8397 3.0963	1.1613 0.7120 0.0344 1.8265 3.0857	1.1640 0.7150 0.0176 1.8183 3.0792	1.1649 0.7160 0.0000 1.8155 3.0769	
0.95	1.1344 0.6674 0.0875 1.9186 3.1525	1.1431 0.6774 0.0827 1.8914 3.1316	1.1511 0.6866 0.0746 1.8664 3.1122	1.1582 0.6947 0.0636 1.8446 3.0950	1.1640 0.7013 0.0501 1.8268 3.0808	1.1684 0.7062 0.0345 1.8136 3.0702	1.1710 0.7093 0.0176 1.8055 3.0636	1.1720 0.7103 0.0000 1.8027 3.0614	
1.00	1.1417 0.6616 0.0878 1.9047 3.1363	1.1503 0.6716 0.0829 1.8776 3.1155	1.1583 0.6809 0.0748 1.8528 3.0961	1.1653 0.6890 0.0637 1.8312 3.0789	1.1711 0.6956 0.0502 1.8135 3.0647	1.1755 0.7006 0.0346 1.8003 3.0541	1.1781 0.7036 0.0177 1.7923 3.0476	1.1790 0.7046 0.0000 1.7895 3.0454	
F_x	1.2722	1.2707	1.2692	1.2679	1.2668	1.2659	1.2653	1.2651	

$$M_{\infty} = 5, \xi_{\kappa} = 10^{\circ}, \alpha = 2^{\circ}30'$$

ξ	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.00	2.1171	2.1174	2.1184	2.1199	2.1220	2.1246	2.1275	2.1308	2.1343
	0.3733	0.3734	0.3735	0.3738	0.3742	0.3746	0.3751	0.3757	0.3763
	0.0000	0.0187	0.0369	0.0540	0.0695	0.0829	0.0936	0.1012	0.1053
	0.4095	0.4077	0.4024	0.3940	0.3830	0.3699	0.3556	0.3409	0.3264
0.05	2.0795	2.0729	2.0538	2.0229	1.9822	1.9338	1.8802	1.8241	1.7683
	2.1191	2.1195	2.1205	2.1222	2.1246	2.1274	2.1308	2.1345	2.1384
	0.3621	0.3622	0.3624	0.3628	0.3633	0.3640	0.3647	0.3656	0.3665
	0.0000	0.0186	0.0367	0.0537	0.0691	0.0823	0.0929	0.1003	0.1043
0.10	0.4093	0.4075	0.4023	0.3939	0.3830	0.3700	0.3559	0.3412	0.3267
	2.0786	2.0724	2.0543	2.0252	1.9867	1.9408	1.8900	1.8368	1.7837
	2.1211	2.1214	2.1225	2.1242	2.1265	2.1294	2.1328	2.1364	2.1403
	0.3514	0.3515	0.3518	0.3523	0.3529	0.3537	0.3547	0.3557	0.3569
0.15	0.0000	0.0185	0.0364	0.0532	0.0684	0.0814	0.0919	0.0991	0.1029
	0.4086	0.4068	0.4016	0.3934	0.3825	0.3697	0.3557	0.3411	0.3267
	2.0761	2.0700	2.0522	2.0236	1.9857	1.9405	1.8903	1.8376	1.7849
	2.1230	2.1233	2.1244	2.1261	2.1284	2.1313	2.1346	2.1383	2.1421
0.20	0.3412	0.3413	0.3417	0.3422	0.3430	0.3440	0.3451	0.3464	0.3477
	0.0000	0.0183	0.0360	0.0526	0.0677	0.0805	0.0907	0.0977	0.1014
	0.4075	0.4057	0.4006	0.3925	0.3817	0.3690	0.3551	0.3406	0.3262
	2.0721	2.0661	2.0486	2.0204	1.9831	1.9384	1.8888	1.8365	1.7841
0.25	2.1249	2.1252	2.1263	2.1280	2.1303	2.1332	2.1365	2.1401	2.1439
	0.3314	0.3315	0.3319	0.3326	0.3335	0.3346	0.3359	0.3374	0.3390
	0.0000	0.0181	0.0357	0.0521	0.0669	0.0795	0.0895	0.0964	0.0999
	0.4060	0.4043	0.3993	0.3912	0.3806	0.3680	0.3542	0.3398	0.3255
0.30	2.0668	2.0610	2.0437	2.0159	1.9790	1.9349	1.8858	1.8340	1.7818
	2.1267	2.1271	2.1281	2.1298	2.1321	2.1350	2.1382	2.1418	2.1456
	0.3220	0.3221	0.3226	0.3234	0.3244	0.3257	0.3272	0.3288	0.3306
	0.0000	0.0179	0.0353	0.0515	0.0662	0.0786	0.0884	0.0951	0.0984
0.35	0.4043	0.4026	0.3976	0.3896	0.3791	0.3666	0.3529	0.3387	0.3245
	2.0604	2.0546	2.0376	2.0102	1.9738	1.9302	1.8816	1.8302	1.7783
	2.1285	2.1289	2.1299	2.1316	2.1339	2.1367	2.1400	2.1435	2.1473
	0.3129	0.3131	0.3136	0.3144	0.3156	0.3170	0.3187	0.3206	0.3226
0.40	0.0000	0.0178	0.0349	0.0510	0.0654	0.0777	0.0873	0.0938	0.0970
	0.4022	0.4005	0.3956	0.3877	0.3773	0.3650	0.3515	0.3373	0.3233
	2.0529	2.0472	2.0304	2.0034	1.9675	1.9244	1.8762	1.8252	1.7737
	2.1303	2.1307	2.1317	2.1334	2.1357	2.1385	2.1417	2.1452	2.1489
0.45	0.3041	0.3043	0.3048	0.3058	0.3071	0.3087	0.3105	0.3126	0.3148
	0.0000	0.0176	0.0346	0.0505	0.0648	0.0768	0.0863	0.0927	0.0957
	0.3999	0.3982	0.3934	0.3856	0.3753	0.3631	0.3497	0.3357	0.3218
	2.0444	2.0388	2.0223	1.9956	1.9601	1.9175	1.8699	1.8193	1.7682
0.50	2.1321	2.1325	2.1335	2.1352	2.1374	2.1402	2.1434	2.1469	2.1506
	0.2955	0.2957	0.2963	0.2974	0.2988	0.3006	0.3026	0.3049	0.3073
	0.0000	0.0174	0.0343	0.0500	0.0641	0.0760	0.0853	0.0915	0.0945
	0.3973	0.3957	0.3909	0.3832	0.3731	0.3610	0.3478	0.3339	0.3201
0.55	2.0350	2.0295	2.0131	1.9868	1.9518	1.9097	1.8626	1.8125	1.7617
	2.1339	2.1343	2.1353	2.1369	2.1392	2.1419	2.1451	2.1486	2.1522
	0.2871	0.2874	0.2881	0.2892	0.2908	0.2927	0.2949	0.2973	0.2999
	0.0000	0.0173	0.0340	0.0496	0.0635	0.0753	0.0844	0.0905	0.0933
0.60	0.3945	0.3929	0.3881	0.3806	0.3706	0.3587	0.3456	0.3318	0.3181
	2.0247	2.0192	2.0031	1.9772	1.9426	1.9010	1.8544	1.8047	1.7543
	2.1357	2.1361	2.1371	2.1387	2.1409	2.1436	2.1468	2.1502	2.1538
	0.2789	0.2792	0.2799	0.2812	0.2829	0.2849	0.2873	0.2900	0.2928
0.65	0.0000	0.0172	0.0338	0.0492	0.0630	0.0746	0.0836	0.0895	0.0922
	0.3914	0.3899	0.3852	0.3777	0.3679	0.3561	0.3432	0.3296	0.3160
	2.0135	2.0082	1.9923	1.9667	1.9326	1.8915	1.8453	1.7961	1.7461

$$M_{\infty} = 5, \beta_{\kappa} = 10^{\circ}, \alpha = 2^{\circ}30'$$

ξ	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.55	2.1375 0.2709 0.0000 0.3882 2.0015	2.1379 0.2712 0.0170 0.3866 1.9962	2.1389 0.2720 0.0335 0.3820 1.9806	2.1405 0.2733 0.0488 0.3747 1.9554	2.1427 0.2751 0.0625 0.3649 1.9217	2.1454 0.2774 0.0739 0.3534 1.8811	2.1485 0.2799 0.0828 0.3406 1.8355	2.1519 0.2827 0.0886 0.3271 1.7868	2.1554 0.2857 0.0912 0.3137 1.7371
0.60	2.1393 0.2630 0.0000 0.3847 1.9887	2.1397 0.2633 0.0169 0.3832 1.9835	2.1406 0.2641 0.0333 0.3786 1.9681	2.1423 0.2656 0.0484 0.3714 1.9432	2.1444 0.2675 0.0620 0.3618 1.9100	2.1471 0.2699 0.0733 0.3504 1.8699	2.1502 0.2726 0.0820 0.3378 1.8248	2.1535 0.2756 0.0877 0.3245 1.7766	2.1571 0.2788 0.0902 0.3112 1.7274
0.65	2.1412 0.2551 0.0000 0.3810 1.9750	2.1415 0.2554 0.0168 0.3795 1.9699	2.1425 0.2564 0.0330 0.3750 1.9547	2.1440 0.2579 0.0481 0.3679 1.9302	2.1462 0.2600 0.0615 0.3585 1.8975	2.1488 0.2625 0.0727 0.3472 1.8579	2.1519 0.2654 0.0813 0.3348 1.8133	2.1552 0.2686 0.0869 0.3217 1.7655	2.1587 0.2719 0.0893 0.3085 1.7168
0.70	2.1430 0.2473 0.0000 0.3771 1.9605	2.1433 0.2476 0.0167 0.3756 1.9554	2.1443 0.2486 0.0329 0.3712 1.9405	2.1459 0.2503 0.0478 0.3642 1.9163	2.1480 0.2525 0.0611 0.3549 1.8841	2.1506 0.2551 0.0722 0.3438 1.8450	2.1536 0.2582 0.0807 0.3316 1.8010	2.1570 0.2616 0.0862 0.3186 1.7537	2.1604 0.2651 0.0885 0.3056 1.7053
0.75	2.1449 0.2395 0.0000 0.3729 1.9450	2.1452 0.2399 0.0166 0.3715 1.9400	2.1462 0.2409 0.0327 0.3672 1.9254	2.1477 0.2427 0.0475 0.3603 1.9016	2.1498 0.2450 0.0607 0.3511 1.8697	2.1524 0.2478 0.0717 0.3402 1.8312	2.1554 0.2510 0.0801 0.3281 1.7877	2.1587 0.2545 0.0855 0.3153 1.7409	2.1622 0.2582 0.0877 0.3025 1.6930
0.80	2.1468 0.2317 0.0000 0.3685 1.9286	2.1471 0.2321 0.0165 0.3671 1.9237	2.1481 0.2332 0.0325 0.3629 1.9092	2.1496 0.2350 0.0473 0.3561 1.8858	2.1517 0.2375 0.0604 0.3471 1.8544	2.1543 0.2404 0.0712 0.3364 1.8164	2.1572 0.2438 0.0795 0.3244 1.7734	2.1605 0.2475 0.0848 0.3118 1.7272	2.1639 0.2513 0.0870 0.2991 1.6797
0.85	2.1488 0.2238 0.0000 0.3638 1.9110	2.1491 0.2242 0.0165 0.3624 1.9062	2.1500 0.2254 0.0324 0.3583 1.8920	2.1515 0.2273 0.0471 0.3516 1.8689	2.1536 0.2298 0.0601 0.3428 1.8380	2.1562 0.2330 0.0708 0.3322 1.8006	2.1591 0.2365 0.0790 0.3205 1.7581	2.1624 0.2403 0.0843 0.3081 1.7123	2.1658 0.2443 0.0864 0.2955 1.6652
0.90	2.1508 0.2158 0.0000 0.3588 1.8922	2.1511 0.2162 0.0164 0.3574 1.8875	2.1521 0.2174 0.0322 0.3534 1.8735	2.1536 0.2194 0.0469 0.3468 1.8508	2.1556 0.2221 0.0598 0.3382 1.8204	2.1581 0.2253 0.0705 0.3278 1.7834	2.1611 0.2290 0.0786 0.3162 1.7415	2.1643 0.2329 0.0837 0.3040 1.6962	2.1677 0.2370 0.0858 0.2916 1.6495
0.95	2.1529 0.2075 0.0000 0.3535 1.8720	2.1533 0.2079 0.0164 0.3521 1.8673	2.1542 0.2092 0.0321 0.3481 1.8536	2.1557 0.2113 0.0467 0.3417 1.8313	2.1577 0.2141 0.0595 0.3332 1.8013	2.1602 0.2175 0.0702 0.3230 1.7649	2.1631 0.2213 0.0782 0.3116 1.7234	2.1663 0.2253 0.0833 0.2996 1.6786	2.1697 0.2295 0.0853 0.2873 1.6323
1.00	2.1552 0.1989 0.0000 0.3477 1.8500	2.1555 0.1994 0.0163 0.3463 1.8454	2.1564 0.2007 0.0320 0.3424 1.8319	2.1579 0.2029 0.0465 0.3362 1.8099	2.1599 0.2058 0.0593 0.3278 1.7804	2.1624 0.2093 0.0699 0.3178 1.7445	2.1653 0.2132 0.0778 0.3066 1.7035	2.1685 0.2173 0.0829 0.2947 1.6590	2.1719 0.2216 0.0848 0.2826 1.6130
F_x	0.2656	0.2658	0.2665	0.2677	0.2694	0.2714	0.2739	0.2767	0.2798

$$M_{\infty} = 5, \beta_{\kappa} = 10^{\circ}, \alpha = 2^{\circ}30'$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.00	2.1379	2.1414	2.1446	2.1475	2.1500	2.1518	2.1529	2.1580	2.1533
	0.3770	0.3776	0.3782	0.3787	0.3791	0.3794	0.3796	0.3805	0.3797
	0.1053	0.1012	0.0928	0.0803	0.0640	0.0445	0.0229	0.0000	0.0000
	0.3127	0.3004	0.2899	0.2813	0.2746	0.2700	0.2672	0.2663	0.2663
	1.7151	1.6668	1.6247	1.5901	1.5632	1.5443	1.5330	1.5562	1.5293
0.05	2.1424	2.1463	2.1499	2.1532	2.1559	2.1579	2.1592	2.1596	
	0.3675	0.3684	0.3693	0.3701	0.3709	0.3714	0.3718	0.3719	
	0.1042	0.1000	0.0915	0.0791	0.0630	0.0438	0.0225	0.0000	
	0.3131	0.3008	0.2901	0.2814	0.2747	0.2699	0.2671	0.2662	
	1.7331	1.6871	1.6469	1.6139	1.5881	1.5700	1.5591	1.5556	
0.10	2.1443	2.1481	2.1517	2.1549	2.1575	2.1595	2.1607	2.1611	
	0.3581	0.3593	0.3604	0.3614	0.3624	0.3631	0.3635	0.3637	
	0.1026	0.0984	0.0900	0.0777	0.0618	0.0429	0.0220	0.0000	
	0.3130	0.3007	0.2900	0.2813	0.2744	0.2696	0.2667	0.2658	
	1.7343	1.6881	1.6476	1.6140	1.5876	1.5689	1.5575	1.5539	
0.15	2.1460	2.1498	2.1534	2.1565	2.1591	2.1610	2.1622	2.1626	
	0.3492	0.3506	0.3520	0.3532	0.3543	0.3552	0.3557	0.3559	
	0.1010	0.0968	0.0884	0.0762	0.0606	0.0421	0.0216	0.0000	
	0.3127	0.3004	0.2896	0.2808	0.2739	0.2690	0.2661	0.2651	
	1.7337	1.6874	1.6465	1.6125	1.5856	1.5665	1.5549	1.5511	
0.20	2.1478	2.1515	2.1550	2.1581	2.1606	2.1625	2.1637	2.1641	
	0.3406	0.3423	0.3439	0.3453	0.3466	0.3476	0.3483	0.3485	
	0.0994	0.0952	0.0868	0.0747	0.0594	0.0412	0.0211	0.0000	
	0.3120	0.2997	0.2890	0.2801	0.2731	0.2682	0.2652	0.2642	
	1.7316	1.6852	1.6442	1.6098	1.5826	1.5631	1.5513	1.5475	
0.25	2.1494	2.1531	2.1566	2.1596	2.1621	2.1640	2.1651	2.1655	
	0.3325	0.3344	0.3362	0.3377	0.3392	0.3403	0.3411	0.3413	
	0.0979	0.0936	0.0852	0.0733	0.0582	0.0404	0.0207	0.0000	
	0.3110	0.2988	0.2881	0.2791	0.2721	0.2672	0.2642	0.2632	
	1.7282	1.6819	1.6407	1.6061	1.5786	1.5589	1.5469	1.5430	
0.30	2.1511	2.1547	2.1581	2.1612	2.1636	2.1655	2.1666	2.1670	
	0.3247	0.3267	0.3288	0.3304	0.3321	0.3333	0.3341	0.3344	
	0.0964	0.0921	0.0838	0.0720	0.0572	0.0396	0.0203	0.0000	
	0.3099	0.2976	0.2869	0.2780	0.2709	0.2659	0.2629	0.2619	
	1.7238	1.6775	1.6363	1.6015	1.5738	1.5539	1.5417	1.5378	
0.35	2.1527	2.1563	2.1597	2.1627	2.1651	2.1669	2.1681	2.1684	
	0.3171	0.3194	0.3216	0.3234	0.3252	0.3265	0.3274	0.3277	
	0.0950	0.0907	0.0824	0.0708	0.0562	0.0389	0.0199	0.0000	
	0.3084	0.2963	0.2856	0.2766	0.2696	0.2645	0.2615	0.2605	
	1.7185	1.6723	1.6310	1.5960	1.5681	1.5481	1.5358	1.5318	
0.40	2.1543	2.1579	2.1612	2.1642	2.1666	2.1684	2.1695	2.1699	
	0.3098	0.3122	0.3146	0.3166	0.3185	0.3199	0.3208	0.3212	
	0.0937	0.0893	0.0811	0.0696	0.0552	0.0382	0.0196	0.0000	
	0.3068	0.2947	0.2840	0.2751	0.2680	0.2630	0.2599	0.2589	
	1.7122	1.6661	1.6249	1.5898	1.5617	1.5416	1.5292	1.5252	
0.45	2.1559	2.1594	2.1627	2.1657	2.1681	2.1699	2.1710	2.1713	
	0.3026	0.3053	0.3078	0.3099	0.3119	0.3134	0.3144	0.3148	
	0.0924	0.0881	0.0799	0.0685	0.0544	0.0376	0.0193	0.0000	
	0.3050	0.2930	0.2823	0.2734	0.2663	0.2613	0.2582	0.2572	
	1.7051	1.6592	1.6179	1.5827	1.5546	1.5344	1.5220	1.5179	
0.50	2.1575	2.1610	2.1643	2.1672	2.1696	2.1714	2.1725	2.1728	
	0.2956	0.2985	0.3012	0.3033	0.3054	0.3071	0.3081	0.3085	
	0.0913	0.0869	0.0788	0.0675	0.0535	0.0370	0.0190	0.0000	
	0.3030	0.2910	0.2804	0.2715	0.2644	0.2594	0.2563	0.2553	
	1.6972	1.6514	1.6103	1.5750	1.5468	1.5265	1.5140	1.5099	

$$M_{\infty} = 5, \zeta_K = 10^\circ, \alpha = 2^\circ 30'$$

ζ	ψ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.55	2.1591 0.2888 0.0902 0.3008 1.6885	2.1626 0.2918 0.0858 0.2889 1.6429	2.1658 0.2946 0.0777 0.2784 1.6019	2.1688 0.2969 0.0666 0.2694 1.5665	2.1711 0.2991 0.0528 0.2624 1.5383	2.1729 0.3008 0.0365 0.2573 1.5179	2.1740 0.3019 0.0187 0.2543 1.5054	2.1743 0.3023 0.0000 0.2533 1.5013	
0.60	2.1607 0.2820 0.0842 0.2984 1.6790	2.1641 0.2852 0.0848 0.2866 1.6337	2.1674 0.2882 0.0767 0.2761 1.5927	2.1703 0.2905 0.0657 0.2672 1.5573	2.1727 0.2928 0.0521 0.2602 1.5290	2.1744 0.2945 0.0360 0.2551 1.5086	2.1755 0.2957 0.0184 0.2521 1.4960	2.1759 0.2961 0.0000 0.2511 1.4919	
0.65	2.1623 0.2753 0.0882 0.2958 1.6687	2.1658 0.2786 0.0838 0.2841 1.6236	2.1690 0.2817 0.0758 0.2737 1.5828	2.1719 0.2841 0.0649 0.2648 1.5473	2.1743 0.2865 0.0514 0.2578 1.5190	2.1760 0.2883 0.0355 0.2527 1.4985	2.1771 0.2894 0.0182 0.2497 1.4860	2.1774 0.2899 0.0000 0.2487 1.4819	
0.70	2.1640 0.2686 0.0874 0.2930 1.6576	2.1674 0.2720 0.0829 0.2814 1.6127	2.1706 0.2753 0.0749 0.2711 1.5720	2.1735 0.2777 0.0641 0.2622 1.5364	2.1759 0.2801 0.0508 0.2552 1.5081	2.1776 0.2820 0.0351 0.2502 1.4877	2.1787 0.2832 0.0180 0.2471 1.4751	2.1790 0.2836 0.0000 0.2461 1.4709	
0.75	2.1657 0.2619 0.0866 0.2900 1.6456	2.1691 0.2655 0.0821 0.2785 1.6010	2.1723 0.2688 0.0741 0.2683 1.5604	2.1752 0.2712 0.0634 0.2593 1.5247	2.1776 0.2737 0.0502 0.2524 1.4964	2.1793 0.2757 0.0347 0.2474 1.4759	2.1804 0.2768 0.0178 0.2444 1.4632	2.1807 0.2773 0.0000 0.2434 1.4591	
0.80	2.1674 0.2551 0.0858 0.2868 1.6326	2.1708 0.2588 0.0814 0.2754 1.5882	2.1740 0.2622 0.0734 0.2652 1.5477	2.1770 0.2646 0.0627 0.2563 1.5119	2.1793 0.2671 0.0497 0.2494 1.4835	2.1810 0.2691 0.0344 0.2444 1.4630	2.1821 0.2703 0.0176 0.2413 1.4503	2.1825 0.2708 0.0000 0.2404 1.4462	
0.85	2.1693 0.2482 0.0851 0.2833 1.6185	2.1727 0.2520 0.0807 0.2720 1.5743	2.1758 0.2555 0.0727 0.2619 1.5339	2.1788 0.2578 0.0621 0.2530 1.4978	2.1812 0.2604 0.0492 0.2461 1.4695	2.1829 0.2624 0.0340 0.2411 1.4489	2.1840 0.2636 0.0174 0.2380 1.4362	2.1844 0.2640 0.0000 0.2371 1.4320	
0.90	2.1712 0.2410 0.0845 0.2795 1.6031	2.1746 0.2449 0.0800 0.2683 1.5590	2.1778 0.2484 0.0720 0.2583 1.5187	2.1808 0.2507 0.0615 0.2493 1.4823	2.1832 0.2532 0.0488 0.2424 1.4538	2.1849 0.2552 0.0337 0.2374 1.4332	2.1860 0.2564 0.0172 0.2344 1.4204	2.1864 0.2569 0.0000 0.2334 1.4162	
0.95	2.1732 0.2336 0.0839 0.2754 1.5860	2.1766 0.2375 0.0794 0.2643 1.5421	2.1799 0.2410 0.0714 0.2542 1.5018	2.1830 0.2431 0.0610 0.2452 1.4648	2.1854 0.2456 0.0484 0.2383 1.4361	2.1871 0.2476 0.0334 0.2333 1.4154	2.1883 0.2487 0.0171 0.2302 1.4024	2.1886 0.2491 0.0000 0.2293 1.3982	
1.00	2.1755 0.2256 0.0834 0.2707 1.5669	2.1789 0.2296 0.0789 0.2597 1.5230	2.1822 0.2330 0.0709 0.2497 1.4825	2.1854 0.2348 0.0606 0.2405 1.4446	2.1879 0.2371 0.0481 0.2335 1.4155	2.1897 0.2390 0.0332 0.2285 1.3945	2.1908 0.2400 0.0170 0.2254 1.3812	2.1912 0.2404 0.0000 0.2244 1.3769	
F_x	0.2830	0.2864	0.2896	0.2928	0.2954	0.2974	0.2986	0.2990	

$$M_{\infty} = 5, \beta_{\kappa} = 10^{\circ}, \alpha = 5^{\circ}$$

ξ	θ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.00	2.0911	2.0917	2.0934	2.0962	2.1001	2.1050	2.1107	2.1171	2.1239
	0.3687	0.3688	0.3691	0.3696	0.3703	0.3712	0.3722	0.3733	0.3745
	0.0000	0.0343	0.0678	0.0998	0.1295	0.1561	0.1788	0.1966	0.2084
	0.5055	0.5011	0.4884	0.4682	0.4422	0.4120	0.3798	0.3475	0.3169
	2.3726	2.3579	2.3149	2.2463	2.1562	2.0502	1.9344	1.8153	1.6997
0.05	2.0931	2.0938	2.0957	2.0989	2.1032	2.1086	2.1149	2.1220	2.1296
	0.3571	0.3573	0.3577	0.3584	0.3594	0.3606	0.3621	0.3637	0.3656
	0.0000	0.0342	0.0676	0.0994	0.1288	0.1551	0.1772	0.1944	0.2055
	0.5052	0.5009	0.4884	0.4685	0.4428	0.4130	0.3812	0.3492	0.3188
	2.3716	2.3578	2.3172	2.2522	2.1669	2.0662	1.9561	1.8425	1.7319
0.10	2.0952	2.0958	2.0978	2.1010	2.1054	2.1108	2.1172	2.1243	2.1320
	0.3460	0.3462	0.3467	0.3476	0.3489	0.3504	0.3523	0.3543	0.3566
	0.0000	0.0340	0.0673	0.0988	0.1280	0.1538	0.1755	0.1922	0.2027
	0.5044	0.5002	0.4878	0.4682	0.4428	0.4135	0.3820	0.3503	0.3202
	2.3690	2.3555	2.3159	2.2526	2.1694	2.0710	1.9632	1.8517	1.7426
0.15	2.0972	2.0978	2.0998	2.1030	2.1074	2.1129	2.1193	2.1264	2.1340
	0.3353	0.3355	0.3362	0.3373	0.3388	0.3407	0.3429	0.3454	0.3482
	0.0000	0.0339	0.0669	0.0982	0.1270	0.1524	0.1736	0.1898	0.1998
	0.5032	0.4990	0.4868	0.4675	0.4425	0.4135	0.3824	0.3511	0.3212
	2.3647	2.3516	2.3129	2.2511	2.1696	2.0733	1.9674	1.8576	1.7499
0.20	2.0991	2.0998	2.1018	2.1050	2.1094	2.1148	2.1212	2.1282	2.1358
	0.3250	0.3253	0.3261	0.3274	0.3291	0.3314	0.3340	0.3369	0.3402
	0.0000	0.0337	0.0665	0.0975	0.1260	0.1511	0.1718	0.1875	0.1970
	0.5015	0.4974	0.4854	0.4663	0.4417	0.4131	0.3824	0.3515	0.3218
	2.3591	2.3463	2.3085	2.2479	2.1681	2.0736	1.9695	1.8613	1.7547
0.25	2.1010	2.1017	2.1037	2.1069	2.1113	2.1167	2.1230	2.1300	2.1375
	0.3151	0.3154	0.3163	0.3178	0.3198	0.3224	0.3254	0.3288	0.3325
	0.0000	0.0335	0.0661	0.0969	0.1250	0.1497	0.1700	0.1852	0.1942
	0.4994	0.4954	0.4836	0.4648	0.4405	0.4124	0.3821	0.3515	0.3221
	2.3522	2.3396	2.3026	2.2433	2.1651	2.0723	1.9698	1.8631	1.7576
0.30	2.1030	2.1036	2.1056	2.1088	2.1131	2.1185	2.1248	2.1317	2.1391
	0.3055	0.3058	0.3069	0.3086	0.3109	0.3138	0.3172	0.3210	0.3252
	0.0000	0.0333	0.0657	0.0963	0.1241	0.1485	0.1683	0.1831	0.1916
	0.4970	0.4931	0.4814	0.4630	0.4391	0.4113	0.3814	0.3512	0.3221
	2.3441	2.3318	2.2956	2.2375	2.1607	2.0695	1.9687	1.8635	1.7590
0.35	2.1048	2.1055	2.1074	2.1106	2.1150	2.1203	2.1265	2.1334	2.1407
	0.2961	0.2965	0.2977	0.2996	0.3022	0.3055	0.3093	0.3135	0.3181
	0.0000	0.0332	0.0654	0.0957	0.1233	0.1472	0.1667	0.1810	0.1891
	0.4943	0.4904	0.4790	0.4608	0.4373	0.4099	0.3805	0.3506	0.3218
	2.3349	2.3229	2.2874	2.2305	2.1552	2.0656	1.9663	1.8624	1.7590
0.40	2.1067	2.1074	2.1093	2.1125	2.1167	2.1220	2.1282	2.1350	2.1422
	0.2870	0.2875	0.2888	0.2909	0.2938	0.2974	0.3016	0.3063	0.3113
	0.0000	0.0330	0.0650	0.0952	0.1225	0.1461	0.1652	0.1791	0.1868
	0.4913	0.4875	0.4762	0.4584	0.4352	0.4083	0.3792	0.3497	0.3212
	2.3247	2.3129	2.2782	2.2224	2.1485	2.0605	1.9627	1.8602	1.7579
0.45	2.1086	2.1092	2.1111	2.1143	2.1185	2.1238	2.1298	2.1366	2.1437
	0.2781	0.2786	0.2800	0.2824	0.2856	0.2896	0.2942	0.2993	0.3048
	0.0000	0.0329	0.0647	0.0947	0.1217	0.1450	0.1637	0.1772	0.1846
	0.4880	0.4842	0.4732	0.4556	0.4329	0.4064	0.3777	0.3486	0.3204
	2.3135	2.3020	2.2680	2.2133	2.1408	2.0543	1.9581	1.8569	1.7555
0.50	2.1105	2.1111	2.1130	2.1161	2.1203	2.1255	2.1315	2.1381	2.1452
	0.2694	0.2699	0.2715	0.2741	0.2776	0.2819	0.2869	0.2925	0.2984
	0.0000	0.0327	0.0645	0.0942	0.1210	0.1441	0.1624	0.1755	0.1825
	0.4844	0.4807	0.4699	0.4526	0.4303	0.4042	0.3760	0.3472	0.3194
	2.3014	2.2901	2.2568	2.2032	2.1321	2.0471	1.9524	1.8525	1.7522

$$M_{\infty} = 5, \xi_{\kappa} = 10^{\circ}, \alpha = 5^{\circ}$$

ξ	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.55	2.1123	2.1130	2.1148	2.1179	2.1220	2.1272	2.1331	2.1397	2.1467
	0.2608	0.2614	0.2631	0.2659	0.2697	0.2744	0.2798	0.2858	0.2921
	0.0000	0.0326	0.0642	0.0938	0.1204	0.1431	0.1612	0.1739	0.1805
	0.4806	0.4769	0.4663	0.4494	0.4274	0.4018	0.3740	0.3457	0.3181
	2.2884	2.2773	2.2447	2.1922	2.1225	2.0390	1.9457	1.8472	1.7479
0.60	2.1142	2.1148	2.1167	2.1197	2.1238	2.1289	2.1347	2.1412	2.1482
	0.2524	0.2530	0.2549	0.2579	0.2620	0.2670	0.2729	0.2793	0.2860
	0.0000	0.0325	0.0640	0.0934	0.1198	0.1423	0.1600	0.1724	0.1787
	0.4765	0.4729	0.4625	0.4459	0.4243	0.3991	0.3718	0.3439	0.3166
	2.2744	2.2636	2.2317	2.1803	2.1119	2.0299	1.9382	1.8410	1.7428
0.65	2.1161	2.1167	2.1185	2.1215	2.1256	2.1306	2.1364	2.1428	2.1496
	0.2440	0.2447	0.2467	0.2500	0.2544	0.2598	0.2660	0.2728	0.2800
	0.0000	0.0325	0.0638	0.0931	0.1193	0.1415	0.1589	0.1710	0.1770
	0.4721	0.4686	0.4584	0.4422	0.4210	0.3962	0.3694	0.3418	0.3149
	2.2596	2.2490	2.2178	2.1674	2.1004	2.0199	1.9297	1.8339	1.7367
0.70	2.1180	2.1186	2.1204	2.1233	2.1273	2.1323	2.1380	2.1443	2.1511
	0.2357	0.2365	0.2386	0.2421	0.2468	0.2526	0.2592	0.2665	0.2740
	0.0000	0.0324	0.0637	0.0928	0.1188	0.1408	0.1579	0.1697	0.1754
	0.4675	0.4641	0.4511	0.4382	0.4174	0.3931	0.3667	0.3396	0.3130
	2.2438	2.2334	2.2029	2.1537	2.0880	2.0090	1.9203	1.8258	1.7297
0.75	2.1199	2.1205	2.1223	2.1252	2.1291	2.1340	2.1396	2.1459	2.1526
	0.2275	0.2283	0.2300	0.2343	0.2393	0.2455	0.2525	0.2602	0.2681
	0.0000	0.0323	0.0635	0.0926	0.1184	0.1402	0.1570	0.1685	0.1739
	0.4626	0.4593	0.4495	0.4339	0.4136	0.3898	0.3638	0.3372	0.3109
	2.2270	2.2169	2.1871	2.1390	2.0747	1.9972	1.9100	1.8169	1.7218
0.80	2.1219	2.1225	2.1242	2.1271	2.1310	2.1357	2.1413	2.1475	2.1542
	0.2192	0.2201	0.2225	0.2265	0.2318	0.2384	0.2458	0.2538	0.2621
	0.0000	0.0323	0.0634	0.0923	0.1180	0.1396	0.1562	0.1674	0.1725
	0.4575	0.4542	0.4446	0.4294	0.4095	0.3862	0.3607	0.3345	0.3086
	2.2093	2.1994	2.1703	2.1233	2.0604	1.9844	1.8987	1.8070	1.7130
0.85	2.1239	2.1245	2.1262	2.1290	2.1328	2.1375	2.1430	2.1491	2.1557
	0.2109	0.2118	0.2144	0.2186	0.2243	0.2312	0.2390	0.2475	0.2561
	0.0000	0.0322	0.0633	0.0922	0.1177	0.1391	0.1555	0.1664	0.1712
	0.4520	0.4488	0.4395	0.4246	0.4052	0.3823	0.3573	0.3316	0.3061
	2.1904	2.1809	2.1525	2.1066	2.0450	1.9706	1.8864	1.7961	1.7032
0.90	2.1260	2.1265	2.1282	2.1310	2.1347	2.1394	2.1448	2.1508	2.1574
	0.2025	0.2035	0.2062	0.2107	0.2167	0.2240	0.2322	0.2411	0.2501
	0.0000	0.0322	0.0633	0.0920	0.1174	0.1386	0.1548	0.1655	0.1701
	0.4463	0.4432	0.4340	0.4195	0.4005	0.3782	0.3537	0.3284	0.3032
	2.1704	2.1611	2.1334	2.0886	2.0285	1.9557	1.8730	1.7841	1.6923
0.95	2.1281	2.1286	2.1303	2.1330	2.1367	2.1413	2.1466	2.1526	2.1591
	0.1940	0.1950	0.1979	0.2026	0.2090	0.2167	0.2253	0.2345	0.2438
	0.0000	0.0322	0.0632	0.0919	0.1172	0.1383	0.1542	0.1647	0.1690
	0.4401	0.4371	0.4282	0.4141	0.3956	0.3737	0.3498	0.3249	0.3001
	2.1491	2.1400	2.1131	2.0694	2.0107	1.9395	1.8584	1.7709	1.6802
1.00	2.1303	2.1309	2.1325	2.1351	2.1388	2.1433	2.1485	2.1544	2.1609
	0.1853	0.1863	0.1894	0.1944	0.2011	0.2091	0.2181	0.2278	0.2374
	0.0000	0.0322	0.0632	0.0919	0.1171	0.1380	0.1537	0.1639	0.1681
	0.4336	0.4306	0.4220	0.4083	0.3902	0.3689	0.3454	0.3210	0.2967
	2.1262	2.1174	2.0912	2.0487	1.9915	1.9218	1.8423	1.7562	1.6666
F_x	0.2558	0.2562	0.2573	0.2593	0.2620	0.2656	0.2699	0.2751	0.2810

$$M_{\infty} = 5, \beta_K = 10^\circ, \alpha = 5^\circ$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.00	2.1311	2.1382	2.1451	2.1513	2.1565	2.1604	2.1629	2.1735	2.1637
	0.3758	0.3770	0.3782	0.3793	0.3802	0.3809	0.3814	0.3832	0.3815
	0.2130	0.2090	0.1955	0.1719	0.1384	0.0971	0.0501	0.0000	0.0000
	0.2895	0.2665	0.2483	0.2352	0.2265	0.2214	0.2187	0.2180	0.2180
	1.5933	1.5017	1.4280	1.3735	1.3372	1.3154	1.3043	1.3514	1.3009
0.05	2.1376	2.1456	2.1533	2.1603	2.1663	2.1708	2.1735	2.1744	
	0.3675	0.3695	0.3715	0.3734	0.3753	0.3768	0.3778	0.3781	
	0.2095	0.2052	0.1916	0.1683	0.1356	0.0952	0.0491	0.0000	
	0.2915	0.2684	0.2500	0.2365	0.2274	0.2217	0.2188	0.2179	
	1.6300	1.5420	1.4712	1.4191	1.3848	1.3644	1.3542	1.3511	
0.10	2.1399	2.1478	2.1554	2.1621	2.1678	2.1720	2.1745	2.1754	
	0.3591	0.3616	0.3641	0.3667	0.3692	0.3712	0.3727	0.3732	
	0.2063	0.2016	0.1879	0.1648	0.1326	0.0929	0.0478	0.0000	
	0.2930	0.2699	0.2513	0.2375	0.2279	0.2219	0.2187	0.2177	
	1.6416	1.5535	1.4817	1.4276	1.3903	1.3668	1.3542	1.3501	
0.15	2.1418	2.1496	2.1570	2.1636	2.1691	2.1731	2.1755	2.1763	
	0.3511	0.3542	0.3572	0.3604	0.3634	0.3659	0.3677	0.3683	
	0.2030	0.1979	0.1841	0.1611	0.1294	0.0905	0.0465	0.0000	
	0.2941	0.2710	0.2523	0.2381	0.2283	0.2219	0.2184	0.2173	
	1.6495	1.5613	1.4885	1.4326	1.3930	1.3673	1.3532	1.3486	
0.20	2.1435	2.1512	2.1585	2.1649	2.1702	2.1741	2.1765	2.1773	
	0.3435	0.3471	0.3507	0.3544	0.3578	0.3608	0.3628	0.3635	
	0.1997	0.1943	0.1803	0.1575	0.1263	0.0882	0.0453	0.0000	
	0.2949	0.2718	0.2529	0.2385	0.2284	0.2217	0.2180	0.2168	
	1.6549	1.5665	1.4929	1.4355	1.3942	1.3668	1.3515	1.3465	
0.25	2.1452	2.1527	2.1599	2.1662	2.1714	2.1752	2.1775	2.1783	
	0.3364	0.3404	0.3444	0.3486	0.3525	0.3558	0.3580	0.3588	
	0.1965	0.1908	0.1768	0.1541	0.1234	0.0861	0.0442	0.0000	
	0.2954	0.2722	0.2533	0.2387	0.2282	0.2213	0.2175	0.2162	
	1.6584	1.5700	1.4956	1.4370	1.3941	1.3654	1.3491	1.3438	
0.30	2.1467	2.1542	2.1612	2.1674	2.1725	2.1763	2.1785	2.1793	
	0.3295	0.3340	0.3384	0.3430	0.3473	0.3509	0.3533	0.3541	
	0.1935	0.1875	0.1734	0.1509	0.1207	0.0841	0.0431	0.0000	
	0.2955	0.2724	0.2534	0.2386	0.2279	0.2208	0.2168	0.2155	
	1.6603	1.5719	1.4969	1.4372	1.3931	1.3632	1.3461	1.3405	
0.35	2.1482	2.1556	2.1625	2.1686	2.1737	2.1773	2.1796	2.1803	
	0.3229	0.3279	0.3327	0.3376	0.3422	0.3460	0.3486	0.3495	
	0.1906	0.1844	0.1702	0.1480	0.1181	0.0823	0.0422	0.0000	
	0.2954	0.2723	0.2532	0.2383	0.2274	0.2201	0.2160	0.2146	
	1.6609	1.5725	1.4970	1.4364	1.3913	1.3603	1.3426	1.3367	
0.40	2.1496	2.1569	2.1638	2.1699	2.1748	2.1784	2.1806	2.1814	
	0.3166	0.3219	0.3271	0.3324	0.3373	0.3413	0.3440	0.3449	
	0.1879	0.1814	0.1672	0.1452	0.1158	0.0806	0.0413	0.0000	
	0.2950	0.2720	0.2529	0.2378	0.2268	0.2193	0.2151	0.2137	
	1.6603	1.5720	1.4961	1.4347	1.3886	1.3568	1.3385	1.3324	
0.45	2.1510	2.1583	2.1651	2.1711	2.1759	2.1796	2.1817	2.1825	
	0.3104	0.3162	0.3217	0.3273	0.3324	0.3366	0.3394	0.3404	
	0.1854	0.1786	0.1643	0.1426	0.1136	0.0790	0.0405	0.0000	
	0.2944	0.2715	0.2523	0.2372	0.2260	0.2184	0.2140	0.2126	
	1.6587	1.5705	1.4941	1.4321	1.3852	1.3526	1.3338	1.3275	
0.50	2.1525	2.1596	2.1663	2.1723	2.1771	2.1807	2.1829	2.1836	
	0.3044	0.3106	0.3164	0.3222	0.3275	0.3319	0.3348	0.3358	
	0.1830	0.1760	0.1617	0.1401	0.1116	0.0776	0.0398	0.0000	
	0.2936	0.2708	0.2516	0.2363	0.2250	0.2173	0.2128	0.2114	
	1.6560	1.5680	1.4913	1.4287	1.3810	1.3478	1.3285	1.3221	

$$M_{\infty} = 5, \beta_{\kappa} = 10^{\circ}, \alpha = 5^{\circ}$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.55	2.1538 0.2986 0.1807 0.2925 1.6524	2.1609 0.3051 0.1735 0.2699 1.5646	2.1676 0.3111 0.1593 0.2506 1.4877	2.1735 0.3172 0.1379 0.2353 1.4245	2.1783 0.3227 0.1097 0.2239 1.3762	2.1819 0.3272 0.0763 0.2160 1.3424	2.1841 0.3302 0.0391 0.2115 1.3226	2.1848 0.3312 0.0000 0.2100 1.3160	
0.60	2.1552 0.2928 0.1786 0.2913 1.6478	2.1623 0.2997 0.1712 0.2687 1.5603	2.1689 0.3060 0.1569 0.2495 1.4832	2.1748 0.3123 0.1358 0.2341 1.4195	2.1796 0.3179 0.1080 0.2226 1.3706	2.1831 0.3225 0.0750 0.2146 1.3362	2.1853 0.3255 0.0384 0.2100 1.3161	2.1860 0.3265 0.0000 0.2085 1.3094	
0.65	2.1566 0.2872 0.1766 0.2898 1.6425	2.1636 0.2943 0.1691 0.2674 1.5552	2.1702 0.3008 0.1548 0.2482 1.4779	2.1760 0.3073 0.1338 0.2328 1.4138	2.1808 0.3131 0.1064 0.2212 1.3643	2.1844 0.3177 0.0739 0.2131 1.3294	2.1865 0.3208 0.0378 0.2084 1.3089	2.1873 0.3218 0.0000 0.2069 1.3020	
0.70	2.1581 0.2816 0.1747 0.2882 1.6362	2.1650 0.2890 0.1670 0.2659 1.5493	2.1716 0.2957 0.1528 0.2467 1.4717	2.1774 0.3023 0.1320 0.2312 1.4072	2.1822 0.3082 0.1049 0.2195 1.3572	2.1857 0.3128 0.0728 0.2114 1.3218	2.1879 0.3159 0.0373 0.2066 1.3009	2.1886 0.3169 0.0000 0.2051 1.2939	
0.75	2.1595 0.2760 0.1730 0.2864 1.6291	2.1664 0.2837 0.1651 0.2642 1.5424	2.1730 0.2905 0.1509 0.2450 1.4647	2.1788 0.2972 0.1303 0.2295 1.3998	2.1835 0.3032 0.1035 0.2177 1.3492	2.1871 0.3078 0.0719 0.2095 1.3132	2.1893 0.3109 0.0368 0.2047 1.2919	2.1901 0.3119 0.0000 0.2031 1.2848	
0.80	2.1610 0.2704 0.1714 0.2843 1.6210	2.1678 0.2783 0.1634 0.2623 1.5347	2.1744 0.2852 0.1491 0.2431 1.4567	2.1802 0.2920 0.1287 0.2275 1.3913	2.1850 0.2980 0.1022 0.2157 1.3402	2.1886 0.3026 0.0709 0.2073 1.3036	2.1909 0.3056 0.0363 0.2025 1.2820	2.1916 0.3066 0.0000 0.2008 1.2747	
0.85	2.1625 0.2647 0.1699 0.2820 1.6119	2.1693 0.2729 0.1617 0.2602 1.5259	2.1759 0.2798 0.1475 0.2410 1.4476	2.1818 0.2866 0.1272 0.2253 1.3817	2.1866 0.2925 0.1010 0.2134 1.3300	2.1903 0.2970 0.0701 0.2049 1.2928	2.1925 0.2999 0.0359 0.2000 1.2706	2.1933 0.3009 0.0000 0.1983 1.2632	
0.90	2.1641 0.2589 0.1685 0.2795 1.6018	2.1709 0.2673 0.1602 0.2578 1.5160	2.1775 0.2742 0.1460 0.2385 1.4372	2.1834 0.2809 0.1258 0.2228 1.3708	2.1884 0.2866 0.0999 0.2107 1.3182	2.1921 0.2910 0.0693 0.2021 1.2802	2.1944 0.2938 0.0355 0.1971 1.2575	2.1952 0.2947 0.0000 0.1954 1.2499	
0.95	2.1658 0.2530 0.1673 0.2766 1.5904	2.1725 0.2614 0.1588 0.2551 1.5048	2.1793 0.2682 0.1446 0.2358 1.4254	2.1853 0.2747 0.1246 0.2199 1.3580	2.1903 0.2802 0.0988 0.2076 1.3044	2.1942 0.2842 0.0686 0.1988 1.2652	2.1966 0.2868 0.0352 0.1936 1.2417	2.1974 0.2876 0.0000 0.1919 1.2337	
1.00	2.1675 0.2467 0.1661 0.2734 1.5774	2.1743 0.2552 0.1575 0.2520 1.4919	2.1812 0.2617 0.1433 0.2325 1.4114	2.1874 0.2678 0.1235 0.2164 1.3427	2.1926 0.2728 0.0979 0.2038 1.2874	2.1968 0.2761 0.0680 0.1947 1.2463	2.1994 0.2782 0.0349 0.1892 1.2212	2.2003 0.2788 0.0000 0.1873 1.2127	
F_x	0.2876	0.2945	0.3020	0.3090	0.3154	0.3206	0.3240	0.3252	

$$M_{\infty} = 5, \beta_{\kappa} = 10^{\circ}, \alpha = 7^{\circ}30'$$

ξ	θ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.00	2.0611	2.0619	2.0644	2.0684	2.0739	2.0808	2.0889	2.0981	2.1082
	0.3634	0.3636	0.3640	0.3647	0.3657	0.3669	0.3683	0.3700	0.3717
	0.0000	0.0476	0.0944	0.1394	0.1819	0.2208	0.2552	0.2846	0.3063
	0.6172	0.6096	0.5874	0.5526	0.5082	0.4576	0.4047	0.3525	0.3045
0.05	2.6676	2.6441	2.5749	2.4651	2.3219	2.1543	1.9734	1.7879	1.6103
	2.0632	2.0641	2.0668	2.0712	2.0773	2.0848	2.0937	2.1037	2.1148
	0.3516	0.3518	0.3524	0.3535	0.3549	0.3567	0.3589	0.3614	0.3642
	0.0000	0.0476	0.0943	0.1391	0.1810	0.2193	0.2525	0.2805	0.3008
0.10	0.6169	0.6094	0.5876	0.5534	0.5096	0.4598	0.4077	0.3561	0.3086
	2.6666	2.6444	2.5790	2.4749	2.3391	2.1793	2.0066	1.8284	1.6575
	2.0653	2.0662	2.0690	2.0735	2.0796	2.0873	2.0964	2.1065	2.1176
	0.3402	0.3405	0.3413	0.3426	0.3445	0.3469	0.3497	0.3531	0.3567
0.15	0.0000	0.0476	0.0941	0.1387	0.1801	0.2178	0.2502	0.2772	0.2964
	0.6160	0.6087	0.5872	0.5535	0.5105	0.4614	0.4100	0.3592	0.3122
	2.6639	2.6423	2.5790	2.4780	2.3461	2.1908	2.0226	1.8489	1.6815
	2.0673	2.0683	2.0711	2.0756	2.0818	2.0895	2.0986	2.1088	2.1199
0.20	0.3292	0.3295	0.3305	0.3322	0.3345	0.3375	0.3410	0.3451	0.3495
	0.0000	0.0475	0.0938	0.1382	0.1792	0.2163	0.2480	0.2740	0.2921
	0.6146	0.6074	0.5862	0.5531	0.5108	0.4625	0.4119	0.3618	0.3154
	2.6595	2.6386	2.5770	2.4788	2.3505	2.1991	2.0349	1.8649	1.7006
0.25	2.0694	2.0703	2.0731	2.0776	2.0839	2.0916	2.1007	2.1107	2.1218
	0.3186	0.3190	0.3202	0.3222	0.3249	0.3285	0.3327	0.3376	0.3428
	0.0000	0.0474	0.0936	0.1377	0.1783	0.2149	0.2458	0.2710	0.2881
	0.6127	0.6056	0.5848	0.5523	0.5107	0.4632	0.4134	0.3640	0.3180
0.30	2.6537	2.6333	2.5734	2.4778	2.3527	2.2050	2.0444	1.8779	1.7162
	2.0713	2.0723	2.0751	2.0796	2.0858	2.0935	2.1025	2.1126	2.1235
	0.3083	0.3087	0.3102	0.3125	0.3157	0.3198	0.3247	0.3304	0.3375
	0.0000	0.0473	0.0934	0.1372	0.1775	0.2136	0.2438	0.2681	0.2842
0.35	0.6104	0.6034	0.5830	0.5510	0.5101	0.4634	0.4144	0.3657	0.3203
	2.6465	2.6266	2.5683	2.4752	2.3531	2.2089	2.0517	1.8884	1.7293
	2.0733	2.0742	2.0770	2.0815	2.0877	2.0954	2.1043	2.1142	2.1251
	0.2983	0.2988	0.3004	0.3031	0.3068	0.3115	0.3171	0.3235	0.3304
0.40	0.0000	0.0472	0.0932	0.1368	0.1767	0.2123	0.2419	0.2654	0.2806
	0.6077	0.6008	0.5808	0.5494	0.5092	0.4633	0.4150	0.3670	0.3222
	2.6380	2.6187	2.5619	2.4711	2.3520	2.2111	2.0571	1.8969	1.7401
	2.0752	2.0762	2.0789	2.0834	2.0896	2.0972	2.1060	2.1158	2.1265
0.45	0.2885	0.2892	0.2910	0.2940	0.2982	0.3035	0.3098	0.3170	0.3246
	0.0000	0.0472	0.0930	0.1365	0.1760	0.2112	0.2401	0.2628	0.2772
	0.6045	0.5978	0.5782	0.5474	0.5079	0.4628	0.4153	0.3680	0.3237
	2.6283	2.6095	2.5542	2.4657	2.3495	2.2118	2.0609	1.9037	1.7490
0.50	2.0772	2.0781	2.0808	2.0853	2.0914	2.0989	2.1077	2.1174	2.1279
	0.2790	0.2797	0.2818	0.2851	0.2898	0.2957	0.3027	0.3107	0.3191
	0.0000	0.0471	0.0929	0.1362	0.1754	0.2101	0.2384	0.2604	0.2739
	0.6011	0.5945	0.5752	0.5450	0.5063	0.4620	0.4152	0.3687	0.3249
0.55	2.6176	2.5993	2.5454	2.4591	2.3456	2.2110	2.0632	1.9088	1.7563
	2.0791	2.0800	2.0827	2.0872	2.0932	2.1006	2.1093	2.1188	2.1292
	0.2697	0.2705	0.2727	0.2765	0.2817	0.2882	0.2959	0.3046	0.3137
	0.0000	0.0471	0.0928	0.1359	0.1749	0.2091	0.2368	0.2582	0.2709
0.60	0.5973	0.5908	0.5719	0.5423	0.5043	0.4608	0.4149	0.3691	0.3259
	2.6057	2.5879	2.5354	2.4514	2.3406	2.2091	2.0642	1.9125	1.7621
	2.0810	2.0819	2.0846	2.0890	2.0950	2.1023	2.1108	2.1202	2.1305
	0.2606	0.2614	0.2639	0.2680	0.2737	0.2809	0.2893	0.2987	0.3086
0.65	0.0000	0.0471	0.0927	0.1357	0.1744	0.2082	0.2354	0.2561	0.2680
	0.5932	0.5868	0.5684	0.5393	0.5021	0.4594	0.4143	0.3692	0.3265
	2.5929	2.5756	2.5245	2.4426	2.3345	2.2059	2.0639	1.9150	1.7666
	2.0830	2.0839	2.0866	2.0910	2.0970	2.1043	2.1128	2.1222	2.1325

$$M_{\infty} = 5, \beta_{\kappa} = 10^{\circ}, \alpha = 7^{\circ}30'$$

ξ	ψ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.55	2.0830 0.2516 0.0000 0.5887 2.5791	2.0839 0.2525 0.0471 0.5826 2.5622	2.0865 0.2552 0.0927 0.5645 2.5125	2.0908 0.2597 0.1355 0.5361 2.4327	2.0967 0.2660 0.1740 0.4996 2.3273	2.1039 0.2737 0.2074 0.4577 2.2017	2.1124 0.2828 0.2341 0.4134 2.0625	2.1216 0.2930 0.2541 0.3690 1.9162	2.1318 0.3036 0.2654 0.3269 1.7699
0.60	2.0849 0.2427 0.0000 0.5840 2.5642	2.0858 0.2437 0.0471 0.5780 2.5479	2.0884 0.2467 0.0927 0.5603 2.4995	2.0926 0.2516 0.1354 0.5325 2.4219	2.0984 0.2583 0.1736 0.4968 2.3191	2.1055 0.2667 0.2067 0.4558 2.1964	2.1139 0.2765 0.2329 0.4122 2.0601	2.1230 0.2874 0.2523 0.3686 1.9164	2.1330 0.2988 0.2628 0.3271 1.7720
0.65	2.0869 0.2339 0.0000 0.5790 2.5484	2.0877 0.2350 0.0472 0.5731 2.5326	2.0903 0.2382 0.0927 0.5558 2.4856	2.0945 0.2435 0.1354 0.5286 2.4101	2.1002 0.2508 0.1733 0.4937 2.3099	2.1072 0.2598 0.2061 0.4535 2.1900	2.1154 0.2703 0.2318 0.4108 2.0565	2.1243 0.2820 0.2506 0.3680 1.9155	2.1342 0.2941 0.2605 0.3270 1.7731
0.70	2.0888 0.2252 0.0000 0.5736 2.5317	2.0897 0.2264 0.0472 0.5679 2.5163	2.0922 0.2298 0.0927 0.5510 2.4706	2.0963 0.2356 0.1353 0.5245 2.3972	2.1019 0.2434 0.1731 0.4903 2.2996	2.1088 0.2531 0.2056 0.4511 2.1827	2.1168 0.2642 0.2308 0.4092 2.0520	2.1257 0.2767 0.2490 0.3671 1.9136	2.1354 0.2894 0.2583 0.3267 1.7731
0.75	2.0908 0.2165 0.0000 0.5680 2.5139	2.0916 0.2178 0.0473 0.5624 2.4989	2.0941 0.2215 0.0928 0.5460 2.4547	2.0982 0.2277 0.1354 0.5201 2.3834	2.1037 0.2360 0.1730 0.4867 2.2854	2.1104 0.2464 0.2051 0.4483 2.1744	2.1183 0.2582 0.2299 0.4073 2.0465	2.1270 0.2714 0.2476 0.3660 1.9107	2.1365 0.2849 0.2563 0.3262 1.7722
0.80	2.0928 0.2079 0.0000 0.5621 2.4950	2.0936 0.2092 0.0474 0.5566 2.4806	2.0961 0.2132 0.0930 0.5406 2.4377	2.1000 0.2193 0.1354 0.5154 2.3685	2.1054 0.2287 0.1729 0.4828 2.2762	2.1120 0.2397 0.2047 0.4453 2.1651	2.1198 0.2523 0.2291 0.4052 2.0401	2.1283 0.2662 0.2462 0.3646 1.9068	2.1377 0.2804 0.2544 0.3254 1.7703
0.85	2.0949 0.1992 0.0000 0.5558 2.4751	2.0957 0.2006 0.0475 0.5505 2.4611	2.0981 0.2049 0.0931 0.5349 2.4196	2.1019 0.2119 0.1356 0.5104 2.3526	2.1072 0.2214 0.1729 0.4787 2.2629	2.1137 0.2331 0.2044 0.4421 2.1548	2.1213 0.2464 0.2284 0.4028 2.0326	2.1297 0.2610 0.2450 0.3631 1.9020	2.1389 0.2759 0.2526 0.3245 1.7676
0.90	2.0970 0.1904 0.0000 0.5491 2.4539	2.0977 0.1920 0.0476 0.5440 2.4405	2.1001 0.1965 0.0933 0.5289 2.4003	2.1039 0.2040 0.1357 0.5051 2.3355	2.1090 0.2140 0.1729 0.4742 2.2485	2.1154 0.2264 0.2042 0.4385 2.1434	2.1228 0.2405 0.2278 0.4001 2.0241	2.1310 0.2559 0.2440 0.3613 1.8962	2.1402 0.2714 0.2510 0.3233 1.7638
0.95	2.0991 0.1816 0.0000 0.5421 2.4315	2.0999 0.1832 0.0477 0.5371 2.4185	2.1022 0.1881 0.0935 0.5225 2.3798	2.1058 0.1960 0.1360 0.4994 2.3172	2.1109 0.2066 0.1730 0.4694 2.2330	2.1171 0.2197 0.2041 0.4347 2.1308	2.1244 0.2345 0.2273 0.3972 2.0145	2.1324 0.2507 0.2430 0.3592 1.8893	2.1414 0.2668 0.2495 0.3219 1.7590
1.00	2.1013 0.1726 0.0000 0.5347 2.4076	2.1021 0.1743 0.0479 0.5299 2.3951	2.1043 0.1794 0.0938 0.5157 2.3579	2.1079 0.1878 0.1362 0.4933 2.2975	2.1128 0.1991 0.1732 0.4642 2.2161	2.1188 0.2129 0.2041 0.4305 2.1170	2.1260 0.2285 0.2269 0.3940 2.0037	2.1339 0.2454 0.2422 0.3568 1.8813	2.1427 0.2622 0.2482 0.3202 1.7532
F_x	0.2489	0.2494	0.2508	0.2533	0.2568	0.2616	0.2674	0.2747	0.2831

$$M_{\infty} = 5, \beta_k = 10^\circ, \alpha = 7^\circ 30'$$

ξ	θ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.00	2.1188	2.1298	2.1404	2.1504	2.1587	2.1651	2.1688	2.1859	2.1701
	0.3736	0.3755	0.3774	0.3792	0.3806	0.3818	0.3824	0.3854	0.3826
	0.3208	0.3222	0.3100	0.2763	0.2241	0.1545	0.0775	0.0000	0.0000
	0.2622	0.2284	0.2038	0.1895	0.1833	0.1821	0.1828	0.1830	0.1830
0.05	1.4472	1.3115	1.2089	1.1475	1.1208	1.1155	1.1184	1.1935	1.1194
	2.1265	2.1385	2.1504	2.1616	2.1713	2.1791	2.1841	2.1858	
	0.3672	0.3702	0.3734	0.3767	0.3802	0.3835	0.3854	0.3860	
	0.3115	0.3135	0.3005	0.2673	0.2171	0.1516	0.0783	0.0000	
0.10	0.2667	0.2330	0.2080	0.1929	0.1857	0.1833	0.1831	0.1830	
	1.4996	1.3679	1.2677	1.2080	1.1829	1.1810	1.1894	1.1936	
	2.1293	2.1413	2.1532	2.1641	2.1734	2.1803	2.1844	2.1857	
	0.3606	0.3645	0.3686	0.3731	0.3779	0.3824	0.3853	0.3863	
0.15	0.3078	0.3069	0.2933	0.2605	0.2116	0.1478	0.0759	0.0000	
	0.2707	0.2369	0.2117	0.1959	0.1878	0.1844	0.1834	0.1830	
	1.5264	1.3958	1.2952	1.2324	1.2026	1.1937	1.1939	1.1936	
	2.1315	2.1434	2.1550	2.1657	2.1745	2.1808	2.1845	2.1858	
0.20	0.3543	0.3591	0.3641	0.3696	0.3755	0.3811	0.3847	0.3860	
	0.3024	0.3007	0.2864	0.2538	0.2059	0.1434	0.0734	0.0000	
	0.2742	0.2405	0.2150	0.1985	0.1895	0.1852	0.1837	0.1830	
	1.5478	1.4177	1.3163	1.2501	1.2153	1.2004	1.1958	1.1935	
0.25	2.1333	2.1451	2.1564	2.1668	2.1752	2.1812	2.1847	2.1859	
	0.3485	0.3541	0.3600	0.3663	0.3731	0.3796	0.3837	0.3853	
	0.2973	0.2947	0.2799	0.2474	0.2004	0.1392	0.0711	0.0000	
	0.2772	0.2435	0.2179	0.2007	0.1910	0.1859	0.1838	0.1829	
0.30	1.5654	1.4358	1.3333	1.2638	1.2246	2.2048	1.1967	1.1932	
	2.1348	2.1465	2.1576	2.1677	2.1758	2.1816	2.1850	2.1862	
	0.3429	0.3493	0.3560	0.3631	0.3707	0.3779	0.3824	0.3841	
	0.2924	0.2890	0.2736	0.2414	0.1951	0.1353	0.0690	0.0000	
0.35	0.2798	0.2462	0.2203	0.2026	0.1922	0.1864	0.1838	0.1828	
	1.5802	1.4509	1.3473	1.2748	1.2316	1.2079	1.1971	1.1926	
	2.1362	2.1477	2.1586	2.1685	2.1764	2.1820	2.1854	2.1865	
	0.3377	0.3448	0.3523	0.3600	0.3683	0.3761	0.3807	0.3825	
0.40	0.2879	0.2837	0.2678	0.2357	0.1902	0.1317	0.0672	0.0000	
	0.2821	0.2486	0.2225	0.2042	0.1932	0.1868	0.1838	0.1826	
	1.5927	1.4636	1.3590	1.2837	1.2371	1.2100	1.1969	1.1917	
	2.1376	2.1489	2.1596	2.1693	2.1770	2.1825	2.1858	2.1870	
0.45	0.3327	0.3406	0.3487	0.3571	0.3659	0.3741	0.3789	0.3807	
	0.2835	0.2786	0.2622	0.2304	0.1857	0.1284	0.0655	0.0000	
	0.2840	0.2505	0.2243	0.2056	0.1939	0.1870	0.1836	0.1823	
	1.6032	1.4743	1.3687	1.2909	1.2413	1.2113	1.1962	1.1903	
0.50	2.1388	2.1499	2.1604	2.1700	2.1776	2.1830	2.1863	2.1875	
	0.3279	0.3365	0.3453	0.3541	0.3635	0.3719	0.3768	0.3787	
	0.2795	0.2738	0.2570	0.2255	0.1815	0.1254	0.0639	0.0000	
	0.2856	0.2522	0.2258	0.2067	0.1945	0.1871	0.1833	0.1819	
0.55	1.6119	1.4833	1.3769	1.2968	1.2444	1.2119	1.1949	1.1884	
	2.1399	2.1509	2.1613	2.1708	2.1782	2.1836	2.1869	2.1880	
	0.3234	0.3326	0.3420	0.3513	0.3610	0.3697	0.3745	0.3765	
	0.2756	0.2693	0.2522	0.2208	0.1777	0.1226	0.0625	0.0000	
0.60	0.2869	0.2536	0.2271	0.2076	0.1919	0.1871	0.1830	0.1814	
	1.6192	1.4908	1.3836	1.3014	1.2407	1.2118	1.1932	1.1861	
	2.1411	2.1519	2.1621	2.1715	2.1788	2.1842	2.1875	2.1887	
	0.3189	0.3288	0.3387	0.3484	0.3585	0.3673	0.3720	0.3740	
0.65	0.2720	0.2650	0.2476	0.2165	0.1741	0.1200	0.0612	0.0000	
	0.2880	0.2548	0.2282	0.2083	0.1952	0.1869	0.1825	0.1808	
	1.6251	1.4970	1.3991	1.3050	1.2480	1.2111	1.1908	1.1833	

$$M_{\infty} = 5, \beta_{\kappa} = 10^{\circ}, \alpha = 7^{\circ}30'$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.55	2.1421 0.3147 0.2686 0.2888 1.6297	2.1528 0.3252 0.2610 0.2557 1.5020	2.1629 0.3356 0.2433 0.2290 1.3934	2.1722 0.3456 0.2125 0.2087 1.3076	2.1795 0.3559 0.1707 0.1953 1.2486	2.1848 0.3648 0.1177 0.1866 1.2097	2.1883 0.3693 0.0601 0.1818 1.1879	2.1894 0.3714 0.0000 0.1801 1.1800	
0.60	2.1432 0.3105 0.2654 0.2893 1.6333	2.1538 0.3216 0.2573 0.2564 1.5058	2.1638 0.3324 0.2393 0.2296 1.3968	2.1730 0.3427 0.2087 0.2090 1.3093	2.1802 0.3532 0.1676 0.1952 1.2484	2.1856 0.3621 0.1155 0.1862 1.2077	2.1891 0.3665 0.0590 0.1811 1.1843	2.1902 0.3685 0.0000 0.1793 1.1760	
0.65	2.1443 0.3065 0.2624 0.2896 1.6357	2.1547 0.3181 0.2537 0.2569 1.5087	2.1646 0.3293 0.2355 0.2300 1.3991	2.1738 0.3398 0.2052 0.2091 1.3101	2.1809 0.3505 0.1647 0.1949 1.2475	2.1864 0.3593 0.1134 0.1856 1.2050	2.1900 0.3634 0.0579 0.1801 1.1800	2.1911 0.3655 0.0000 0.1783 1.1713	
0.70	2.1453 0.3025 0.2596 0.2898 1.6372	2.1556 0.3146 0.2504 0.2572 1.5106	2.1654 0.3262 0.2320 0.2303 1.4005	2.1746 0.3369 0.2019 0.2091 1.3100	2.1817 0.3476 0.1620 0.1945 1.2457	2.1872 0.3564 0.1115 0.1848 1.2016	2.1910 0.3601 0.0570 0.1790 1.1749	2.1921 0.3621 0.0000 0.1771 1.1658	
0.75	2.1463 0.2986 0.2569 0.2897 1.6378	2.1566 0.3112 0.2473 0.2573 1.5116	2.1663 0.3231 0.2286 0.2303 1.4011	2.1755 0.3338 0.1988 0.2088 1.3091	2.1826 0.3447 0.1594 0.1940 1.2432	2.1882 0.3532 0.1097 0.1839 1.1973	2.1921 0.3565 0.0561 0.1777 1.1686	2.1933 0.3585 0.0000 0.1757 1.1593	
0.80	2.1474 0.2944 0.2544 0.2894 1.6374	2.1575 0.3078 0.2444 0.2572 1.5117	2.1672 0.3200 0.2255 0.2301 1.4007	2.1764 0.3307 0.1959 0.2084 1.3073	2.1836 0.3415 0.1571 0.1932 1.2398	2.1892 0.3497 0.1080 0.1828 1.1921	2.1934 0.3525 0.0554 0.1761 1.1612	2.1946 0.3544 0.0000 0.1741 1.1515	
0.85	2.1485 0.2908 0.2521 0.2889 1.6361	2.1585 0.3043 0.2416 0.2569 1.5109	2.1681 0.3167 0.2225 0.2298 1.3995	2.1774 0.3274 0.1932 0.2077 1.3045	2.1846 0.3381 0.1548 0.1922 1.2354	2.1904 0.3460 0.1064 0.1814 1.1858	2.1949 0.3478 0.0546 0.1742 1.1520	2.1961 0.3498 0.0000 0.1720 1.1420	
0.90	2.1495 0.2869 0.2500 0.2882 1.6338	2.1595 0.3009 0.2390 0.2563 1.5092	2.1691 0.3134 0.2197 0.2292 1.3974	2.1784 0.3239 0.1906 0.2068 1.3007	2.1858 0.3344 0.1527 0.1901 1.2297	2.1918 0.3417 0.1049 0.1797 1.1779	2.1968 0.3422 0.0540 0.1716 1.1400	2.1981 0.3441 0.0000 0.1695 1.1298	
0.95	2.1507 0.2830 0.2480 0.2873 1.6306	2.1605 0.2973 0.2366 0.2556 1.5065	2.1702 0.3100 0.2171 0.2285 1.3942	2.1796 0.3201 0.1882 0.2057 1.2956	2.1872 0.3302 0.1508 0.1894 1.2225	2.1935 0.3368 0.1034 0.1776 1.1679	2.1995 0.3346 0.0535 0.1680 1.1226	2.2007 0.3365 0.0000 0.1658 1.1123	
1.00	2.1518 0.2790 0.2461 0.2861 1.6264	2.1616 0.2936 0.2343 0.2547 1.5029	2.1713 0.3063 0.2146 0.2274 1.3898	2.1810 0.3159 0.1859 0.2042 1.2888	2.1888 0.3254 0.1490 0.1874 1.2131	2.1956 0.3306 0.1017 0.1748 1.1547	2.2058 0.3170 0.0536 0.1590 1.0794	2.2073 0.3182 0.0000 0.1565 1.0674	
F_x	0.2933	0.3040	0.3165	0.3281	0.3405	0.3495	0.3632	0.3652	

$$M_{\infty} = 5, \beta_k = 15^\circ, \alpha = 5^\circ$$

ξ	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.00	1.9796	1.9803	1.9824	1.9858	1.9905	1.9963	2.0030	2.0105	2.0186
	0.5304	0.5306	0.5312	0.5321	0.5333	0.5349	0.5367	0.5387	0.5409
	0.0000	0.0286	0.0564	0.0828	0.1070	0.1282	0.1456	0.1586	0.1663
	0.7716	0.7659	0.7493	0.7229	0.6884	0.6482	0.6046	0.5600	0.5168
	3.0009	2.9852	2.9388	2.8644	2.7663	2.6498	2.5212	2.3870	2.2538
0.05	1.9822	1.9831	1.9859	1.9904	1.9965	2.0041	2.0129	2.0228	2.0334
	0.5207	0.5209	0.5217	0.5230	0.5248	0.5270	0.5295	0.5324	0.5354
	0.0000	0.0296	0.0583	0.0855	0.1102	0.1318	0.1493	0.1622	0.1697
	0.7713	0.7657	0.7492	0.7229	0.6887	0.6487	0.6053	0.5609	0.5177
	3.0002	2.9863	2.9454	2.8797	2.7930	2.6898	2.5757	2.4566	2.3382
0.10	1.9849	1.9858	1.9886	1.9932	1.9995	2.0072	2.0162	2.0262	2.0369
	0.5111	0.5114	0.5123	0.5137	0.5157	0.5181	0.5209	0.5240	0.5273
	0.0000	0.0302	0.0595	0.0871	0.1123	0.1341	0.1518	0.1648	0.1722
	0.7705	0.7649	0.7485	0.7225	0.6885	0.6487	0.6055	0.5613	0.5182
	2.9979	2.9845	2.9448	2.8811	2.7967	2.6960	2.5844	2.4673	2.3505
0.15	1.9875	1.9884	1.9913	1.9959	2.0023	2.0101	2.0191	2.0292	2.0398
	0.5018	0.5021	0.5031	0.5047	0.5068	0.5095	0.5125	0.5158	0.5194
	0.0000	0.0306	0.0604	0.0884	0.1138	0.1358	0.1536	0.1664	0.1737
	0.7692	0.7637	0.7474	0.7215	0.6878	0.6483	0.6054	0.5613	0.5184
	2.9943	2.9812	2.9425	2.8802	2.7976	2.6989	2.5892	2.4736	2.3577
0.20	1.9900	1.9910	1.9939	1.9985	2.0049	2.0127	2.0218	2.0318	2.0425
	0.4927	0.4931	0.4941	0.4958	0.4982	0.5010	0.5043	0.5079	0.5117
	0.0000	0.0310	0.0611	0.0894	0.1150	0.1371	0.1549	0.1677	0.1748
	0.7674	0.7619	0.7458	0.7202	0.6867	0.6475	0.6048	0.5610	0.5183
	2.9894	2.9766	2.9387	2.8777	2.7967	2.6997	2.5915	2.4772	2.3621
0.25	1.9926	1.9936	1.9964	2.0011	2.0075	2.0153	2.0244	2.0344	2.0450
	0.4838	0.4842	0.4853	0.4872	0.4897	0.4928	0.4963	0.5001	0.5042
	0.0000	0.0313	0.0617	0.0902	0.1159	0.1381	0.1559	0.1685	0.1755
	0.7652	0.7598	0.7438	0.7184	0.6852	0.6463	0.6039	0.5604	0.5178
	2.9833	2.9707	2.9335	2.8737	2.7941	2.6987	2.5919	2.4788	2.3644
0.30	1.9951	1.9961	1.9990	2.0037	2.0100	2.0178	2.0269	2.0368	2.0474
	0.4750	0.4755	0.4767	0.4787	0.4814	0.4847	0.4885	0.4926	0.4969
	0.0000	0.0316	0.0622	0.0909	0.1168	0.1390	0.1567	0.1692	0.1759
	0.7626	0.7572	0.7414	0.7162	0.6833	0.6447	0.6027	0.5594	0.5171
	2.9759	2.9636	2.9272	2.8685	2.7902	2.6962	2.5908	2.4787	2.3651
0.35	1.9977	1.9987	2.0015	2.0062	2.0125	2.0203	2.0293	2.0392	2.0497
	0.4665	0.4669	0.4682	0.4704	0.4733	0.4768	0.4809	0.4852	0.4898
	0.0000	0.0318	0.0627	0.0915	0.1175	0.1397	0.1573	0.1697	0.1762
	0.7596	0.7542	0.7386	0.7137	0.6811	0.6429	0.6011	0.5582	0.5160
	2.9675	2.9553	2.9197	2.8620	2.7851	2.6924	2.5883	2.4773	2.3643
0.40	2.0002	2.0012	2.0040	2.0087	2.0150	2.0227	2.0317	2.0415	2.0520
	0.4580	0.4585	0.4599	0.4622	0.4653	0.4691	0.4734	0.4780	0.4828
	0.0000	0.0321	0.0631	0.0921	0.1181	0.1403	0.1579	0.1701	0.1764
	0.7561	0.7509	0.7354	0.7108	0.6785	0.6406	0.5993	0.5566	0.5147
	2.9579	2.9461	2.9110	2.8544	2.7787	2.6874	2.5845	2.4745	2.3622
0.45	2.0027	2.0037	2.0065	2.0112	2.0174	2.0251	2.0340	2.0438	2.0542
	0.4497	0.4502	0.4517	0.4542	0.4575	0.4615	0.4661	0.4710	0.4760
	0.0000	0.0323	0.0635	0.0926	0.1187	0.1409	0.1584	0.1704	0.1765
	0.7524	0.7472	0.7319	0.7075	0.6756	0.6381	0.5971	0.5548	0.5131
	2.9474	2.9357	2.9013	2.8457	2.7713	2.6813	2.5796	2.4707	2.3590
0.50	2.0053	2.0062	2.0090	2.0136	2.0199	2.0275	2.0364	2.0461	2.0564
	0.4414	0.4420	0.4436	0.4463	0.4498	0.4541	0.4589	0.4641	0.4694
	0.0000	0.0324	0.0638	0.0931	0.1192	0.1414	0.1587	0.1706	0.1765
	0.7482	0.7431	0.7280	0.7039	0.6724	0.6353	0.5947	0.5527	0.5113
	2.9357	2.9243	2.8906	2.8360	2.7627	2.6740	2.5736	2.4657	2.3517

$$M_{\infty} = 5, \beta_k = 15^\circ, \alpha = 5^\circ$$

ξ	θ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.55	2.0078	2.0087	2.0115	2.0161	2.0223	2.0299	2.0387	2.0483	2.0585
	0.4333	0.4339	0.4356	0.4384	0.4422	0.4467	0.4518	0.4573	0.4628
	0.0000	0.0326	0.0641	0.0935	0.1197	0.1418	0.1591	0.1708	0.1764
	0.7437	0.7386	0.7237	0.7000	0.6688	0.6321	0.5919	0.5503	0.5092
	2.9231	2.9119	2.8788	2.8252	2.7532	2.6658	2.5666	2.4597	2.3494
0.60	2.0104	2.0113	2.0141	2.0186	2.0247	2.0323	2.0410	2.0505	2.0607
	0.4252	0.4259	0.4277	0.4307	0.4346	0.4394	0.4448	0.4505	0.4564
	0.0000	0.0328	0.0645	0.0939	0.1202	0.1422	0.1594	0.1709	0.1763
	0.7389	0.7338	0.7192	0.6957	0.6649	0.6287	0.5889	0.5477	0.5069
	2.9095	2.8985	2.8660	2.8134	2.7426	2.6565	2.5585	2.4527	2.3431
0.65	2.0129	2.0139	2.0166	2.0211	2.0272	2.0346	2.0433	2.0528	2.0628
	0.4172	0.4179	0.4198	0.4229	0.4271	0.4322	0.4379	0.4439	0.4500
	0.0000	0.0330	0.0648	0.0943	0.1206	0.1426	0.1596	0.1710	0.1762
	0.7337	0.7287	0.7142	0.6911	0.6607	0.6249	0.5856	0.5448	0.5043
	2.8948	2.8841	2.8523	2.8006	2.7310	2.6462	2.5495	2.4447	2.3359
0.70	2.0155	2.0165	2.0192	2.0236	2.0296	2.0370	2.0456	2.0550	2.0650
	0.4092	0.4099	0.4120	0.4153	0.4197	0.4250	0.4310	0.4373	0.4437
	0.0000	0.0331	0.0650	0.0947	0.1210	0.1430	0.1599	0.1711	0.1760
	0.7281	0.7232	0.7090	0.6862	0.6562	0.6209	0.5820	0.5416	0.5015
	2.8792	2.8686	2.8375	2.7868	2.7184	2.6349	2.5395	2.4358	2.3277
0.75	2.0181	2.0191	2.0217	2.0261	2.0321	2.0394	2.0479	2.0572	2.0672
	0.4012	0.4020	0.4041	0.4076	0.4123	0.4179	0.4242	0.4308	0.4374
	0.0000	0.0333	0.0653	0.0950	0.1213	0.1433	0.1601	0.1711	0.1758
	0.7222	0.7174	0.7034	0.6809	0.6514	0.6166	0.5782	0.5382	0.4984
	2.8624	2.8521	2.8216	2.7719	2.7048	2.6226	2.5285	2.4258	2.3186
0.80	2.0208	2.0217	2.0244	2.0287	2.0346	2.0418	2.0502	2.0595	2.0693
	0.3933	0.3940	0.3963	0.4000	0.4049	0.4108	0.4173	0.4242	0.4311
	0.0000	0.0334	0.0656	0.0954	0.1217	0.1436	0.1603	0.1711	0.1757
	0.7159	0.7112	0.6974	0.6753	0.6463	0.6119	0.5740	0.5345	0.4951
	2.8447	2.8346	2.8047	2.7560	2.6901	2.6093	2.5165	2.4149	2.3085
0.85	2.0235	2.0244	2.0270	2.0313	2.0371	2.0443	2.0526	2.0618	2.0715
	0.3852	0.3861	0.3885	0.3923	0.3975	0.4036	0.4105	0.4177	0.4248
	0.0000	0.0335	0.0658	0.0957	0.1221	0.1439	0.1605	0.1711	0.1755
	0.7093	0.7046	0.6911	0.6694	0.6408	0.6069	0.5696	0.5305	0.4915
	2.8257	2.8159	2.7867	2.7390	2.6744	2.5949	2.5034	2.4030	2.2974
0.90	2.0263	2.0271	2.0297	2.0340	2.0397	2.0468	2.0550	2.0641	2.0738
	0.3772	0.3780	0.3806	0.3846	0.3900	0.3965	0.4036	0.4111	0.4185
	0.0000	0.0337	0.0661	0.0960	0.1224	0.1442	0.1607	0.1712	0.1753
	0.7022	0.6977	0.6844	0.6631	0.6350	0.6016	0.5648	0.5262	0.4876
	2.8057	2.7960	2.7675	2.7208	2.6575	2.5794	2.4893	2.3900	2.2853
0.95	2.0291	2.0299	2.0325	2.0367	2.0423	2.0493	2.0574	2.0665	2.0761
	0.3692	0.3699	0.3726	0.3768	0.3825	0.3892	0.3967	0.4045	0.4121
	0.0000	0.0338	0.0663	0.0964	0.1227	0.1445	0.1608	0.1712	0.1751
	0.6947	0.6903	0.6772	0.6563	0.6288	0.5960	0.5597	0.5216	0.4834
	2.7843	2.7749	2.7470	2.7014	2.6394	2.5627	2.4739	2.3759	2.2720
1.00	2.0320	2.0328	2.0353	2.0394	2.0450	2.0519	2.0600	2.0689	2.0785
	0.3607	0.3617	0.3645	0.3689	0.3748	0.3819	0.3897	0.3977	0.4056
	0.0000	0.0339	0.0666	0.0967	0.1231	0.1448	0.1610	0.1712	0.1749
	0.6868	0.6825	0.6697	0.6492	0.6221	0.5899	0.5542	0.5167	0.4789
	2.7616	2.7524	2.7252	2.6807	2.6199	2.5448	2.4574	2.3605	2.2575
F_x	0.3520	0.3523	0.3530	0.3543	0.3561	0.3583	0.3610	0.3641	0.3676

$$M_{\infty} = 5, \beta_K = 15^\circ, \alpha = 5^\circ$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.00	2.0269	2.0352	2.0430	2.0501	2.0560	2.0605	2.0633	2.0929	2.0642
	0.5431	0.5453	0.5474	0.5493	0.5509	0.5521	0.5528	0.5608	0.5531
	0.1680	0.1631	0.1510	0.1316	0.1056	0.0738	0.0380	0.0000	0.0000
	0.4766	0.4411	0.4112	0.3873	0.3694	0.3571	0.3500	0.3476	0.3476
	2.1274	2.0129	1.9144	1.8342	1.7731	1.7308	1.7061	1.8645	1.6980
0.05	2.0443	2.0553	2.0657	2.0753	2.0835	2.0897	2.0936	2.0950	
	0.5386	0.5417	0.5447	0.5475	0.5499	0.5517	0.5529	0.5533	
	0.1710	0.1657	0.1533	0.1338	0.1075	0.0753	0.0389	0.0000	
	0.4776	0.4420	0.4119	0.3878	0.3696	0.3571	0.3499	0.3475	
	2.2264	2.1259	2.0405	1.9725	1.9224	1.8889	1.8700	1.8639	
0.10	2.0478	2.0587	2.0690	2.0783	2.0861	2.0920	2.0957	2.0969	
	0.5307	0.5340	0.5372	0.5401	0.5426	0.5445	0.5457	0.5461	
	0.1734	0.1679	0.1553	0.1355	0.1089	0.0753	0.0394	0.0000	
	0.4782	0.4425	0.4123	0.3880	0.3696	0.3569	0.3495	0.3471	
	2.2393	2.1384	2.0515	1.9810	1.9276	1.8908	1.8694	1.8623	
0.15	2.0507	2.0615	2.0717	2.0808	2.0884	2.0942	2.0977	2.0989	
	0.5230	0.5265	0.5299	0.5329	0.5355	0.5375	0.5388	0.5393	
	0.1748	0.1691	0.1562	0.1362	0.1093	0.0755	0.0394	0.0000	
	0.4784	0.4428	0.4124	0.3879	0.3693	0.3565	0.3489	0.3464	
	2.2468	2.1454	2.0573	1.9849	1.9293	1.8903	1.8674	1.8598	
0.20	2.0534	2.0641	2.0741	2.0831	2.0906	2.0962	2.0996	2.1008	
	0.5155	0.5192	0.5228	0.5260	0.5287	0.5308	0.5322	0.5326	
	0.1756	0.1696	0.1565	0.1363	0.1093	0.0754	0.0393	0.0000	
	0.4783	0.4427	0.4123	0.3876	0.3688	0.3557	0.3481	0.3456	
	2.2514	2.1496	2.0604	1.9864	1.9290	1.8885	1.8645	1.8565	
0.25	2.0558	2.0664	2.0764	2.0853	2.0926	2.0981	2.1015	2.1027	
	0.5082	0.5122	0.5159	0.5192	0.5221	0.5243	0.5257	0.5262	
	0.1761	0.1698	0.1565	0.1361	0.1089	0.0751	0.0392	0.0000	
	0.4780	0.4423	0.4118	0.3870	0.3681	0.3548	0.3470	0.3445	
	2.2539	2.1517	2.0616	1.9863	1.9274	1.8856	1.8606	1.8523	
0.30	2.0581	2.0687	2.0786	2.0874	2.0946	2.1001	2.1034	2.1046	
	0.5012	0.5053	0.5092	0.5127	0.5157	0.5180	0.5195	0.5200	
	0.1763	0.1698	0.1562	0.1356	0.1085	0.0757	0.0389	0.0000	
	0.4773	0.4417	0.4111	0.3862	0.3671	0.3537	0.3458	0.3432	
	2.2547	2.1522	2.0612	1.9848	1.9247	1.8817	1.8560	1.8474	
0.35	2.0604	2.0708	2.0807	2.0894	2.0966	2.1020	2.1053	2.1065	
	0.4943	0.4986	0.5027	0.5063	0.5094	0.5118	0.5133	0.5138	
	0.1763	0.1696	0.1558	0.1351	0.1079	0.0753	0.0387	0.0000	
	0.4764	0.4408	0.4102	0.3851	0.3659	0.3524	0.3444	0.3417	
	2.2541	2.1513	2.0596	1.9822	1.9210	1.8769	1.8505	1.8417	
0.40	2.0626	2.0730	2.0827	2.0914	2.0986	2.1039	2.1072	2.1083	
	0.4876	0.4921	0.4963	0.5001	0.5033	0.5057	0.5073	0.5078	
	0.1762	0.1693	0.1553	0.1345	0.1073	0.0748	0.0384	0.0000	
	0.4753	0.4397	0.4090	0.3839	0.3645	0.3508	0.3427	0.3401	
	2.2523	2.1492	2.0569	1.9786	1.9163	1.8714	1.8444	1.8353	
0.45	2.0647	2.0751	2.0847	2.0934	2.1005	2.1058	2.1091	2.1102	
	0.4810	0.4858	0.4901	0.4940	0.4972	0.4998	0.5014	0.5019	
	0.1761	0.1688	0.1547	0.1338	0.1066	0.0743	0.0381	0.0000	
	0.4738	0.4383	0.4077	0.3824	0.3629	0.3491	0.3407	0.3382	
	2.2493	2.1461	2.0532	1.9740	1.9108	1.8651	1.8375	1.8282	
0.50	2.0668	2.0771	2.0868	2.0953	2.1024	2.1078	2.1110	2.1121	
	0.4746	0.4795	0.4840	0.4880	0.4913	0.4939	0.4955	0.4960	
	0.1758	0.1684	0.1541	0.1331	0.1060	0.0737	0.0378	0.0000	
	0.4722	0.4368	0.4061	0.3807	0.3611	0.3472	0.3389	0.3362	
	2.2453	2.1419	2.0485	1.9685	1.9045	1.8580	1.8299	1.8204	

$$M_{\infty} = 5, \beta_K = 15^\circ, \alpha = 5^\circ$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.55	2.0689	2.0792	2.0888	2.0973	2.1044	2.1097	2.1130	2.1141	
	0.4683	0.4734	0.4780	0.4821	0.4855	0.4880	0.4896	0.4922	
	0.1755	0.1679	0.1534	0.1323	0.1052	0.0732	0.0375	0.0000	
	0.4703	0.4350	0.4043	0.3789	0.3591	0.3451	0.3368	0.3340	
	2.2403	2.1368	2.0429	1.9622	1.8974	1.8501	1.8215	1.8119	
0.60	2.0710	2.0812	2.0907	2.0993	2.1064	2.1117	2.1149	2.1161	
	0.4620	0.4673	0.4721	0.4762	0.4796	0.4822	0.4838	0.4843	
	0.1752	0.1673	0.1527	0.1316	0.1045	0.0726	0.0372	0.0000	
	0.4682	0.4329	0.4023	0.3768	0.3569	0.3428	0.3344	0.3316	
	2.2344	2.1308	2.0365	1.9551	1.8895	1.8415	1.8124	1.8026	
0.65	2.0731	2.0832	2.0928	2.1013	2.1083	2.1137	2.1170	2.1181	
	0.4559	0.4614	0.4662	0.4704	0.4738	0.4764	0.4779	0.4785	
	0.1748	0.1667	0.1520	0.1308	0.1038	0.0721	0.0369	0.0000	
	0.4658	0.4307	0.4000	0.3745	0.3546	0.3403	0.3318	0.3290	
	2.2275	2.1239	2.0292	1.9471	1.8807	1.8321	1.8024	1.7925	
0.70	2.0752	2.0853	2.0948	2.1033	2.1104	2.1157	2.1190	2.1201	
	0.4498	0.4554	0.4604	0.4646	0.4680	0.4705	0.4721	0.4726	
	0.1744	0.1661	0.1512	0.1300	0.1031	0.0715	0.0366	0.0000	
	0.4632	0.4282	0.3976	0.3720	0.3520	0.3376	0.3291	0.3262	
	2.2197	2.1160	2.0210	1.9383	1.8712	1.8218	1.7917	1.7816	
0.75	2.0773	2.0873	2.0968	2.1053	2.1124	2.1178	2.1211	2.1223	
	0.4437	0.4495	0.4546	0.4588	0.4621	0.4646	0.4661	0.4666	
	0.1740	0.1656	0.1505	0.1292	0.1024	0.0710	0.0363	0.0000	
	0.4604	0.4256	0.3949	0.3693	0.3492	0.3347	0.3261	0.3232	
	2.2110	2.1073	2.0119	1.9286	1.8607	1.8106	1.7801	1.7698	
0.80	2.0794	2.0894	2.0989	2.1074	2.1146	2.1200	2.1233	2.1245	
	0.4377	0.4436	0.4487	0.4529	0.4562	0.4586	0.4600	0.4605	
	0.1736	0.1650	0.1498	0.1285	0.1017	0.0705	0.0361	0.0000	
	0.4573	0.4226	0.3921	0.3664	0.3461	0.3316	0.3228	0.3199	
	2.2013	2.0977	2.0019	1.9179	1.8493	1.7985	1.7674	1.7569	
0.85	2.0816	2.0916	2.1010	2.1096	2.1168	2.1222	2.1256	2.1268	
	0.4316	0.4376	0.4428	0.4470	0.4502	0.4524	0.4538	0.4542	
	0.1732	0.1644	0.1491	0.1277	0.1010	0.0699	0.0358	0.0000	
	0.4540	0.4195	0.3889	0.3632	0.3428	0.3281	0.3193	0.3163	
	2.1907	2.0871	1.9909	1.9063	1.8368	1.7852	1.7535	1.7428	
0.90	2.0838	2.0937	2.1032	2.1118	2.1191	2.1246	2.1280	2.1292	
	0.4255	0.4316	0.4368	0.4409	0.4440	0.4461	0.4473	0.4477	
	0.1728	0.1638	0.1483	0.1269	0.1003	0.0694	0.0355	0.0000	
	0.4504	0.4160	0.3855	0.3597	0.3392	0.3244	0.3154	0.3124	
	2.1790	2.0754	1.9789	1.8935	1.8231	1.7707	1.7384	1.7274	
0.95	2.0860	2.0960	2.1055	2.1141	2.1215	2.1271	2.1306	2.1318	
	0.4193	0.4255	0.4307	0.4347	0.4376	0.4395	0.4405	0.4408	
	0.1724	0.1632	0.1476	0.1262	0.0996	0.0689	0.0352	0.0000	
	0.4465	0.4123	0.3818	0.3559	0.3352	0.3202	0.3112	0.3081	
	2.1662	2.0627	1.9657	1.8795	1.8081	1.7546	1.7216	1.7104	
1.00	2.0884	2.0983	2.1078	2.1166	2.1240	2.1298	2.1334	2.1347	
	0.4129	0.4193	0.4244	0.4282	0.4309	0.4324	0.4333	0.4335	
	0.1720	0.1626	0.1469	0.1255	0.0990	0.0684	0.0349	0.0000	
	0.4423	0.4082	0.3778	0.3518	0.3309	0.3157	0.3064	0.3033	
	2.1522	2.0486	1.9511	1.8640	1.7914	1.7367	1.7028	1.6913	
F_x	0.3712	0.3750	0.3787	0.3821	0.3851	0.3874	0.3888	0.3893	

$$M_{\infty} = 5, \beta_K = 15^\circ, \alpha = 10^\circ$$

ξ	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.00	1.8991	1.9005	1.9044	1.9108	1.9197	1.9308	1.9440	1.9588	1.9751
	0.5089	0.5092	0.5103	0.5120	0.5144	0.5174	0.5209	0.5249	0.5292
	0.0000	0.0529	0.1047	0.1545	0.2011	0.2435	0.2807	0.3115	0.3346
	1.0700	1.0558	1.0144	0.9495	0.8668	0.7730	0.6748	0.5787	0.4897
	3.5095	3.4761	3.3781	3.2224	3.0193	2.7821	2.5249	2.2624	2.0079
0.05	1.9020	1.9036	1.9085	1.9164	1.9273	1.9409	1.9569	1.9749	1.9945
	0.4984	0.4989	0.5003	0.5027	0.5060	0.5101	0.5149	0.5204	0.5263
	0.0000	0.0543	0.1074	0.1580	0.2050	0.2472	0.2835	0.3127	0.3338
	1.0697	1.0556	1.0146	0.9503	0.8604	0.7753	0.6779	0.5824	0.4938
	3.5087	3.4784	3.3894	3.2474	3.0613	2.8425	2.6036	2.3580	2.1180
0.10	1.9048	1.9065	1.9115	1.9198	1.9312	1.9453	1.9618	1.9803	2.0004
	0.4882	0.4887	0.4904	0.4932	0.4970	0.5017	0.5073	0.5135	0.5203
	0.0000	0.0554	0.1094	0.1608	0.2083	0.2506	0.2867	0.3154	0.3356
	1.0687	1.0547	1.0142	0.9506	0.8694	0.7772	0.6806	0.5858	0.4976
	3.5063	3.4772	3.3917	3.2551	3.0757	2.8641	2.6323	2.3931	2.1582
0.15	1.9076	1.9093	1.9145	1.9230	1.9345	1.9489	1.9657	1.9844	2.0047
	0.4781	0.4787	0.4806	0.4838	0.4881	0.4934	0.4997	0.5067	0.5143
	0.0000	0.0563	0.1111	0.1632	0.2111	0.2535	0.2894	0.3176	0.3370
	1.0671	1.0533	1.0131	0.9503	0.8699	0.7786	0.6829	0.5888	0.5011
	3.5025	3.4744	3.3918	3.2597	3.0858	2.8802	2.6542	2.4202	2.1894
0.20	1.9104	1.9121	1.9174	1.9260	1.9377	1.9521	1.9690	1.9879	2.0082
	0.4682	0.4689	0.4711	0.4746	0.4794	0.4854	0.4924	0.5001	0.5084
	0.0000	0.0571	0.1127	0.1653	0.2135	0.2561	0.2918	0.3194	0.3382
	1.0648	1.0512	1.0116	0.9494	0.8700	0.7797	0.6848	0.5915	0.5044
	3.4973	3.4701	3.3902	3.2620	3.0931	2.8929	2.6722	2.4427	2.2154
0.25	1.9131	1.9149	1.9202	1.9288	1.9406	1.9552	1.9721	1.9909	2.0112
	0.4585	0.4593	0.4617	0.4656	0.4709	0.4775	0.4852	0.4938	0.5028
	0.0000	0.0579	0.1141	0.1673	0.2158	0.2584	0.2939	0.3210	0.3390
	1.0620	1.0486	1.0095	0.9481	0.8696	0.7803	0.6864	0.5938	0.5073
	3.4908	3.4644	3.3869	3.2626	3.0983	2.9031	2.6873	2.4620	2.2378
0.30	1.9159	1.9177	1.9230	1.9317	1.9434	1.9580	1.9749	1.9937	2.0138
	0.4490	0.4499	0.4525	0.4567	0.4626	0.4698	0.4783	0.4876	0.4974
	0.0000	0.0586	0.1155	0.1691	0.2179	0.2605	0.2958	0.3224	0.3397
	1.0587	1.0454	1.0068	0.9462	0.8688	0.7805	0.6876	0.5959	0.5100
	3.4829	3.4574	3.3822	3.2615	3.1016	2.9113	2.7001	2.4787	2.2574
0.35	1.9186	1.9204	1.9257	1.9344	1.9462	1.9607	1.9775	1.9962	2.0162
	0.4396	0.4405	0.4434	0.4481	0.4544	0.4623	0.4715	0.4816	0.4922
	0.0000	0.0593	0.1168	0.1709	0.2199	0.2625	0.2975	0.3236	0.3402
	1.0548	1.0418	1.0037	0.9440	0.8675	0.7803	0.6885	0.5977	0.5124
	3.4738	3.4491	3.3762	3.2589	3.1034	2.9177	2.7109	2.4934	2.2748
0.40	1.9214	1.9232	1.9285	1.9371	1.9488	1.9633	1.9800	1.9985	2.0184
	0.4303	0.4314	0.4344	0.4395	0.4464	0.4550	0.4649	0.4758	0.4871
	0.0000	0.0599	0.1180	0.1725	0.2218	0.2644	0.2991	0.3247	0.3405
	1.0505	1.0376	1.0001	0.9412	0.8659	0.7798	0.6891	0.5992	0.5146
	3.4636	3.4396	3.3689	3.2550	3.1037	2.9225	2.7201	2.5062	2.2903
0.45	1.9242	1.9259	1.9312	1.9398	1.9514	1.9658	1.9823	2.0007	2.0204
	0.4211	0.4223	0.4256	0.4311	0.4386	0.4478	0.4585	0.4702	0.4823
	0.0000	0.0606	0.1192	0.1741	0.2237	0.2663	0.3007	0.3257	0.3408
	1.0456	1.0330	0.9961	0.9381	0.8638	0.7789	0.6893	0.6004	0.5165
	3.4521	3.4289	3.3604	3.2499	3.1027	2.9258	2.7277	2.5175	2.3041
0.50	1.9269	1.9287	1.9339	1.9425	1.9540	1.9682	1.9846	2.0028	2.0223
	0.4121	0.4133	0.4169	0.4228	0.4309	0.4408	0.4523	0.4648	0.4777
	0.0000	0.0612	0.1204	0.1757	0.2254	0.2680	0.3021	0.3267	0.3409
	1.0403	1.0278	0.9915	0.9345	0.8614	0.7777	0.6893	0.6013	0.5182
	3.4395	3.4170	3.3507	3.2435	3.1003	2.9279	2.7340	2.5273	2.3165

$$M_{\infty} = 5, \beta_{\kappa} = 15^{\circ}, \alpha = 10^{\circ}$$

ξ	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.55	1.9297	1.9315	1.9366	1.9451	1.9565	1.9706	1.9868	2.0048	2.0240
	0.4031	0.4044	0.4083	0.4146	0.4233	0.4339	0.4462	0.4595	0.4732
	0.0000	0.0618	0.1215	0.1772	0.2272	0.2697	0.3035	0.3275	0.3410
	1.0345	1.0222	0.9866	0.9305	0.8586	0.7762	0.6890	0.6021	0.5197
	3.4258	3.4041	3.3398	3.2359	3.0968	2.9287	2.7389	2.5358	2.3276
0.60	1.9325	1.9342	1.9394	1.9477	1.9590	1.9729	1.9890	2.0067	2.0257
	0.3941	0.3955	0.3997	0.4065	0.4158	0.4272	0.4402	0.4543	0.4688
	0.0000	0.0624	0.1226	0.1787	0.2288	0.2713	0.3048	0.3283	0.3411
	1.0282	1.0162	0.9812	0.9261	0.8554	0.7744	0.6884	0.6025	0.5210
	3.4109	3.3899	3.3278	3.2271	3.0920	2.9283	2.7427	2.5431	2.3374
0.65	1.9353	1.9370	1.9421	1.9503	1.9615	1.9752	1.9911	2.0086	2.0273
	0.3853	0.3868	0.3912	0.3985	0.4084	0.4205	0.4343	0.4493	0.4646
	0.0000	0.0629	0.1237	0.1802	0.2305	0.2729	0.3061	0.3290	0.3411
	1.0215	1.0097	0.9754	0.9214	0.8519	0.7722	0.6875	0.6028	0.5221
	3.3949	3.3747	3.3147	3.2172	3.0862	2.9267	2.7453	2.5492	2.3461
0.70	1.9382	1.9398	1.9448	1.9530	1.9640	1.9775	1.9931	2.0104	2.0289
	0.3764	0.3780	0.3828	0.3905	0.4010	0.4139	0.4286	0.4444	0.4605
	0.0000	0.0635	0.1248	0.1816	0.2321	0.2744	0.3074	0.3297	0.3410
	1.0143	1.0027	0.9691	0.9162	0.8480	0.7697	0.6863	0.6028	0.5229
	3.3778	3.3583	3.3004	3.2062	3.0792	2.9241	2.7468	2.5543	2.3538
0.75	1.9410	1.9427	1.9476	1.9556	1.9664	1.9798	1.9951	2.0122	2.0304
	0.3676	0.3693	0.3743	0.3826	0.3937	0.4074	0.4229	0.4396	0.4565
	0.0000	0.0641	0.1258	0.1830	0.2337	0.2759	0.3086	0.3304	0.3410
	1.0066	0.9953	0.9624	0.9106	0.8438	0.7669	0.6849	0.6025	0.5236
	3.3596	3.3408	3.2850	3.1941	3.0711	2.9203	2.7472	2.5583	2.3604
0.80	1.9439	1.9456	1.9504	1.9583	1.9689	1.9820	1.9971	2.0139	2.0318
	0.3587	0.3605	0.3659	0.3746	0.3865	0.4009	0.4173	0.4349	0.4527
	0.0000	0.0646	0.1269	0.1844	0.2352	0.2774	0.3098	0.3311	0.3409
	0.9984	0.9874	0.9553	0.9046	0.8392	0.7638	0.6832	0.6021	0.5241
	3.3401	3.3221	3.2684	3.1808	3.0618	2.9154	2.7466	2.5613	2.3661
0.85	1.9469	1.9485	1.9532	1.9610	1.9714	1.9842	1.9991	2.0156	2.0332
	0.3498	0.3517	0.3574	0.3667	0.3792	0.3945	0.4117	0.4302	0.4489
	0.0000	0.0652	0.1279	0.1858	0.2368	0.2789	0.3110	0.3317	0.3409
	0.9898	0.9791	0.9477	0.8981	0.8342	0.7603	0.6813	0.6014	0.5244
	3.3195	3.3021	3.2506	3.1663	3.0514	2.9095	2.7449	2.5633	2.3710
0.90	1.9499	1.9514	1.9561	1.9637	1.9739	1.9865	2.0011	2.0172	2.0346
	0.3409	0.3429	0.3490	0.3588	0.3720	0.3880	0.4062	0.4256	0.4451
	0.0000	0.0657	0.1290	0.1872	0.2383	0.2804	0.3121	0.3324	0.3408
	0.9807	0.9702	0.9396	0.8913	0.8288	0.7565	0.6790	0.6005	0.5245
	3.2975	3.2810	3.2316	3.1506	3.0399	2.9024	2.7422	2.5644	2.3749
0.95	1.9529	1.9545	1.9590	1.9664	1.9764	1.9888	2.0030	2.0189	2.0360
	0.3319	0.3341	0.3404	0.3508	0.3647	0.3816	0.4007	0.4211	0.4414
	0.0000	0.0663	0.1300	0.1885	0.2398	0.2818	0.3133	0.3330	0.3407
	0.9710	0.9608	0.9310	0.8839	0.8230	0.7524	0.6765	0.5993	0.5244
	3.2743	3.2584	3.2113	3.1336	3.0271	2.8942	2.7385	2.5645	2.3779
1.00	1.9561	1.9576	1.9620	1.9692	1.9790	1.9910	2.0050	2.0206	2.0374
	0.3228	0.3251	0.3318	0.3427	0.3574	0.3752	0.3953	0.4165	0.4378
	0.0000	0.0668	0.1310	0.1899	0.2413	0.2833	0.3144	0.3337	0.3407
	0.9608	0.9509	0.9219	0.8761	0.8168	0.7479	0.6736	0.5979	0.5241
	3.2496	3.2345	3.1895	3.1153	3.0130	2.8848	2.7336	2.5636	2.3801
F_x	0.3460	0.3464	0.3477	0.3499	0.3530	0.3572	0.3624	0.3688	0.3763

$$M_{\infty} = 5, \beta_K = 15^\circ, \alpha = 10^\circ$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.00	1.9923	2.0100	2.0275	2.0439	2.0582	2.0691	2.0754	2.1279	2.0773
	0.5338	0.5386	0.5433	0.5477	0.5515	0.5544	0.5561	0.5702	0.5566
	0.3485	0.3510	0.3387	0.3070	0.2518	0.1739	0.0854	0.0000	0.0000
	0.4116	0.3467	0.2967	0.2623	0.2424	0.2334	0.2302	0.2296	0.2296
	1.7735	1.5690	1.4040	1.2855	1.2153	1.1827	1.1713	1.4016	1.1690
0.05	2.0153	2.0367	2.0581	2.0787	2.0975	2.1135	2.1248	2.1289	
	0.5325	0.5388	0.5451	0.5513	0.5572	0.5624	0.5658	0.5667	
	0.3451	0.3451	0.3308	0.2984	0.2451	0.1737	0.0908	0.0000	
	0.4158	0.3509	0.3005	0.2653	0.2445	0.2344	0.2305	0.2296	
	1.8957	1.7012	1.5455	1.4377	1.3826	1.3736	1.3901	1.4013	
0.10	2.0216	2.0433	2.0649	2.0853	2.1033	2.1177	2.1267	2.1297	
	0.5273	0.5343	0.5411	0.5477	0.5540	0.5594	0.5629	0.5639	
	0.3459	0.3450	0.3300	0.2977	0.2456	0.1754	0.0919	0.0000	
	0.4199	0.3548	0.3040	0.2682	0.2464	0.2353	0.2306	0.2294	
	1.9395	1.7467	1.5906	1.4800	1.4194	1.3993	1.3989	1.4008	
0.15	2.0260	2.0477	2.0691	2.0892	2.1066	2.1198	2.1278	2.1304	
	0.5220	0.5296	0.5368	0.5437	0.5503	0.5560	0.5600	0.5613	
	0.3465	0.3446	0.3289	0.2966	0.2448	0.1748	0.0913	0.0000	
	0.4236	0.3585	0.3074	0.2708	0.2481	0.2361	0.2307	0.2292	
	1.9731	1.7810	1.6234	1.5089	1.4415	1.4119	1.4021	1.4000	
0.20	2.0295	2.0511	2.0722	2.0919	2.1087	2.1213	2.1287	2.1312	
	0.5168	0.5250	0.5327	0.5398	0.5467	0.5528	0.5572	0.5587	
	0.3467	0.3439	0.3275	0.2948	0.2430	0.1732	0.0902	0.0000	
	0.4271	0.3620	0.3105	0.2732	0.2497	0.2368	0.2307	0.2290	
	2.0011	1.8091	1.6496	1.5308	1.4569	1.4195	1.4033	1.3988	
0.25	2.0324	2.0538	2.0747	2.0941	2.1105	2.1225	2.1297	2.1320	
	0.5119	0.5206	0.5287	0.5360	0.5431	0.5496	0.5544	0.5561	
	0.3467	0.3430	0.3257	0.2925	0.2407	0.1712	0.0890	0.0000	
	0.4304	0.3652	0.3134	0.2755	0.2510	0.2373	0.2306	0.2286	
	2.0251	1.8331	1.6715	1.5485	1.4686	1.4246	1.4035	1.3973	
0.30	2.0348	2.0561	2.0768	2.0958	2.1119	2.1237	2.1306	2.1328	
	0.5072	0.5163	0.5249	0.5325	0.5398	0.5465	0.5516	0.5534	
	0.3464	0.3418	0.3237	0.2900	0.2381	0.1690	0.0877	0.0000	
	0.4334	0.3682	0.3161	0.2775	0.2522	0.2376	0.2303	0.2282	
	2.0462	1.8541	1.6903	1.5633	1.4777	1.4281	1.4030	1.3954	
0.35	2.0370	2.0581	2.0785	2.0974	2.1132	2.1247	2.1315	2.1337	
	0.5026	0.5125	0.5213	0.5291	0.5366	0.5434	0.5487	0.5506	
	0.3460	0.3404	0.3215	0.2872	0.2353	0.1667	0.0864	0.0000	
	0.4362	0.3711	0.3186	0.2794	0.2532	0.2378	0.2300	0.2277	
	2.0650	1.8726	1.7067	1.5758	1.4851	1.4304	1.4019	1.3931	
0.40	2.0390	2.0598	2.0801	2.0987	2.1144	2.1258	2.1325	2.1347	
	0.4983	0.5087	0.5179	0.5259	0.5335	0.5404	0.5458	0.5478	
	0.3455	0.3389	0.3191	0.2843	0.2324	0.1644	0.0851	0.0000	
	0.4387	0.3737	0.3209	0.2811	0.2541	0.2379	0.2296	0.2270	
	2.0818	1.8891	1.7212	1.5866	1.4911	1.4318	1.4002	1.3903	
0.45	2.0408	2.0614	2.0815	2.0999	2.1155	2.1268	2.1335	2.1357	
	0.4942	0.5051	0.5147	0.5229	0.5305	0.5374	0.5428	0.5448	
	0.3448	0.3372	0.3166	0.2814	0.2295	0.1621	0.0839	0.0000	
	0.4410	0.3761	0.3230	0.2826	0.2548	0.2379	0.2290	0.2263	
	2.0969	1.9040	1.7342	1.5960	1.4959	1.4323	1.3979	1.3871	
0.50	2.0425	2.0628	2.0827	2.1011	2.1165	2.1279	2.1345	2.1367	
	0.4902	0.5018	0.5116	0.5200	0.5276	0.5344	0.5398	0.5418	
	0.3441	0.3355	0.3141	0.2784	0.2265	0.1598	0.0826	0.0000	
	0.4432	0.3783	0.3249	0.2840	0.2554	0.2377	0.2283	0.2255	
	2.1105	1.9174	1.7457	1.6042	1.4998	1.4321	1.3951	1.3834	

$$M_{\infty} = 5, \beta_k = 15^\circ, \alpha = 10^\circ$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.55	2.0440	2.0642	2.0839	2.1022	2.1176	2.1290	2.1357	2.1379	
	0.4865	0.4985	0.5088	0.5172	0.5247	0.5314	0.5366	0.5386	
	0.3433	0.3338	0.3115	0.2754	0.2236	0.1576	0.0814	0.0000	
	0.4451	0.3803	0.3267	0.2852	0.2558	0.2374	0.2275	0.2245	
	2.1228	1.9295	1.7561	1.6114	1.5028	1.4312	1.3916	1.3792	
0.60	2.0455	2.0654	2.0850	2.1032	2.1186	2.1301	2.1369	2.1391	
	0.4828	0.4954	0.5060	0.5145	0.5219	0.5283	0.5334	0.5353	
	0.3424	0.3320	0.3090	0.2724	0.2207	0.1554	0.0803	0.0000	
	0.4469	0.3822	0.3284	0.2863	0.2561	0.2369	0.2266	0.2234	
	2.1339	1.9405	1.7654	1.6177	1.5051	1.4297	1.3876	1.3743	
0.65	2.0469	2.0666	2.0860	2.1042	2.1197	2.1312	2.1381	2.1404	
	0.4793	0.4925	0.5034	0.5120	0.5191	0.5252	0.5300	0.5318	
	0.3415	0.3302	0.3064	0.2694	0.2179	0.1532	0.0791	0.0000	
	0.4485	0.3840	0.3299	0.2872	0.2563	0.2363	0.2255	0.2221	
	2.1439	1.9505	1.7739	1.6231	1.5066	1.4274	1.3829	1.3688	
0.70	2.0482	2.0677	2.0870	2.1051	2.1207	2.1324	2.1395	2.1418	
	0.4759	0.4897	0.5009	0.5095	0.5163	0.5219	0.5264	0.5282	
	0.3406	0.3284	0.3038	0.2664	0.2150	0.1511	0.0780	0.0000	
	0.4499	0.3855	0.3313	0.2880	0.2564	0.2356	0.2242	0.2207	
	2.1530	1.9595	1.7815	1.6279	1.5075	1.4245	1.3774	1.3625	
0.75	2.0494	2.0688	2.0880	2.1061	2.1218	2.1337	2.1409	2.1433	
	0.4727	0.4869	0.4984	0.5070	0.5135	0.5186	0.5227	0.5243	
	0.3397	0.3266	0.3013	0.2635	0.2122	0.1490	0.0769	0.0000	
	0.4511	0.3870	0.3325	0.2888	0.2563	0.2347	0.2228	0.2191	
	2.1610	1.9677	1.7883	1.6319	1.5077	1.4207	1.3710	1.3552	
0.80	2.0506	2.0698	2.0889	2.1070	2.1229	2.1351	2.1425	2.1450	
	0.4695	0.4843	0.4961	0.5047	0.5108	0.5151	0.5187	0.5201	
	0.3388	0.3249	0.2988	0.2606	0.2095	0.1470	0.0758	0.0000	
	0.4522	0.3883	0.3337	0.2893	0.2560	0.2336	0.2211	0.2172	
	2.1683	1.9751	1.7944	1.6354	1.5073	1.4162	1.3637	1.3469	
0.85	2.0518	2.0708	2.0897	2.1079	2.1240	2.1366	2.1443	2.1468	
	0.4664	0.4818	0.4939	0.5023	0.5079	0.5115	0.5143	0.5155	
	0.3379	0.3231	0.2963	0.2577	0.2067	0.1449	0.0748	0.0000	
	0.4531	0.3894	0.3347	0.2898	0.2557	0.2323	0.2191	0.2150	
	2.1746	1.9818	1.7999	1.6383	1.5062	1.4107	1.3550	1.3372	
0.90	2.0529	2.0717	2.0906	2.1088	2.1251	2.1382	2.1463	2.1489	
	0.4634	0.4793	0.4917	0.5001	0.5050	0.5076	0.5095	0.5104	
	0.3370	0.3214	0.2939	0.2549	0.2040	0.1429	0.0737	0.0000	
	0.4539	0.3905	0.3356	0.2902	0.2552	0.2307	0.2168	0.2124	
	2.1802	1.9877	1.8048	1.6406	1.5045	1.4042	1.3448	1.3257	
0.95	2.0540	2.0726	2.0914	2.1097	2.1263	2.1399	2.1486	2.1515	
	0.4605	0.4770	0.4896	0.4978	0.5021	0.5033	0.5041	0.5044	
	0.3361	0.3197	0.2915	0.2521	0.2013	0.1408	0.0726	0.0000	
	0.4545	0.3914	0.3363	0.2905	0.2545	0.2289	0.2140	0.2093	
	2.1851	1.9931	1.8092	1.6424	1.5020	1.3962	1.3324	1.3116	
1.00	2.0551	2.0735	2.0922	2.1106	2.1276	2.1419	2.1513	2.1546	
	0.4576	0.4746	0.4875	0.4956	0.4991	0.4986	0.4976	0.4972	
	0.3353	0.3180	0.2891	0.2493	0.1986	0.1387	0.0715	0.0000	
	0.4549	0.3921	0.3370	0.2906	0.2537	0.2267	0.2105	0.2052	
	2.1891	1.9977	1.8130	1.6437	1.4989	1.3866	1.3167	1.2934	
F_x	0.3848	0.3943	0.4042	0.4140	0.4227	0.4302	0.4347	0.4363	

$$M_{\infty} = 5, \beta_{\kappa} = 20^{\circ}, \alpha = 5^{\circ}$$

ξ	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.00	1.8389	1.8397	1.8420	1.8458	1.8510	1.8574	1.8648	1.8731	1.8819
	0.6693	0.6696	0.6704	0.6718	0.6737	0.6760	0.6787	0.6818	0.6850
	0.0000	0.0252	0.0497	0.0727	0.0935	0.1115	0.1259	0.1360	0.1414
	1.0968	1.0899	1.0698	1.0376	0.9955	0.9459	0.8916	0.8354	0.7800
	3.5371	3.5212	3.4747	3.3998	3.3006	3.1823	3.0506	2.9121	2.7729
0.05	1.8422	1.8434	1.8470	1.8528	1.8607	1.8705	1.8818	1.8945	1.9080
	0.6602	0.6606	0.6620	0.6642	0.6672	0.6709	0.6752	0.6799	0.6850
	0.0000	0.0269	0.0530	0.0775	0.0995	0.1183	0.1332	0.1436	0.1490
	1.0964	1.0896	1.0696	1.0376	0.9956	0.9461	0.8919	0.8359	0.7806
	3.5364	3.5236	3.4862	3.4260	3.3463	3.2512	3.1457	3.0352	2.9251
0.10	1.8456	1.8468	1.8504	1.8564	1.8645	1.8745	1.8861	1.8989	1.9125
	0.6512	0.6517	0.6531	0.6555	0.6587	0.6626	0.6672	0.6722	0.6775
	0.0000	0.0280	0.0551	0.0806	0.1034	0.1230	0.1384	0.1492	0.1548
	1.0955	1.0887	1.0688	1.0369	0.9951	0.9459	0.8919	0.8359	0.7807
	3.5343	3.5220	3.4859	3.4279	3.3508	3.2586	3.1559	3.0478	2.9393
0.15	1.8489	1.8501	1.8538	1.8598	1.8680	1.8781	1.8898	1.9027	1.9163
	0.6424	0.6429	0.6445	0.6469	0.6503	0.6545	0.6592	0.6644	0.6699
	0.0000	0.0289	0.0568	0.0830	0.1065	0.1265	0.1424	0.1534	0.1590
	1.0941	1.0873	1.0675	1.0358	0.9942	0.9451	0.8913	0.8356	0.7804
	3.5309	3.5190	3.4839	3.4274	3.3522	3.2621	3.1614	3.0549	2.9474
0.20	1.8522	1.8534	1.8571	1.8632	1.8714	1.8816	1.8933	1.9062	1.9198
	0.6338	0.6343	0.6359	0.6385	0.6421	0.6464	0.6514	0.6568	0.6625
	0.0000	0.0296	0.0582	0.0850	0.1090	0.1294	0.1456	0.1568	0.1624
	1.0920	1.0853	1.0656	1.0341	0.9928	0.9440	0.8904	0.8348	0.7798
	3.5262	3.5146	3.4804	3.4252	3.3516	3.2633	3.1642	3.0589	2.9523
0.25	1.8554	1.8567	1.8604	1.8665	1.8748	1.8849	1.8966	1.9095	1.9231
	0.6252	0.6258	0.6275	0.6303	0.6340	0.6385	0.6437	0.6493	0.6552
	0.0000	0.0302	0.0594	0.0867	0.1111	0.1319	0.1483	0.1596	0.1652
	1.8395	1.0828	1.0632	1.0320	0.9909	0.9423	0.8890	0.8337	0.7788
	3.5203	3.5090	3.4755	3.4215	3.3494	3.2625	3.1649	3.0608	2.9548
0.30	1.8587	1.8600	1.8637	1.8698	1.8780	1.8882	1.8999	1.9127	1.9263
	0.6169	0.6175	0.6192	0.6221	0.6260	0.6307	0.6361	0.6420	0.6481
	0.0000	0.0307	0.0605	0.0882	0.1131	0.1341	0.1507	0.1620	0.1676
	1.0865	1.0798	1.0604	1.0293	0.9885	0.9403	0.8873	0.8321	0.7775
	3.5133	3.5022	3.4695	3.4165	3.3457	3.2603	3.1639	3.0608	2.9554
0.35	1.8620	1.8632	1.8670	1.8730	1.8813	1.8914	1.9030	1.9158	1.9293
	0.6086	0.6092	0.6111	0.6141	0.6181	0.6231	0.6287	0.6347	0.6410
	0.0000	0.0312	0.0614	0.0896	0.1148	0.1361	0.1528	0.1641	0.1696
	1.0829	1.0764	1.0571	1.0263	0.9857	0.9378	0.8851	0.8303	0.7758
	3.5051	3.4943	3.4622	3.4103	3.3408	3.2566	3.1615	3.0594	2.9546
0.40	1.8652	1.8665	1.8702	1.8763	1.8845	1.8945	1.9062	1.9189	1.9323
	0.6004	0.6011	0.6030	0.6062	0.6104	0.6155	0.6213	0.6276	0.6341
	0.0000	0.0317	0.0623	0.0909	0.1163	0.1379	0.1546	0.1660	0.1714
	1.0789	1.0724	1.0533	1.0227	0.9825	0.9350	0.8826	0.8280	0.7738
	3.4959	3.4853	3.4538	3.4029	3.3346	3.2517	3.1577	3.0566	2.9523
0.45	1.8685	1.8697	1.8734	1.8795	1.8876	1.8977	1.9092	1.9219	1.9352
	0.5924	0.5931	0.5951	0.5984	0.6028	0.6081	0.6141	0.6206	0.6274
	0.0000	0.0321	0.0631	0.0920	0.1178	0.1395	0.1563	0.1677	0.1730
	1.0745	1.0680	1.0491	1.0188	0.9789	0.9317	0.8797	0.8255	0.7715
	3.4855	3.4751	3.4443	3.3944	3.3272	3.2456	3.1528	3.0525	2.9488
0.50	1.8718	1.8730	1.8767	1.8827	1.8908	1.9008	1.9123	1.9249	1.9381
	0.5844	0.5851	0.5872	0.5906	0.5952	0.6007	0.6070	0.6137	0.6207
	0.0000	0.0325	0.0639	0.0931	0.1191	0.1409	0.1579	0.1692	0.1744
	1.0696	1.0632	1.0444	1.0144	0.9749	0.9281	0.8765	0.8226	0.7689
	3.4742	3.4640	3.4338	3.3847	3.3187	3.2383	3.1467	3.0473	2.9442

$$M_{\infty} = 5, \beta_{\kappa} = 20^{\circ}, \alpha = 5^{\circ}$$

ξ	θ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.55	1.8750	1.8763	1.8799	1.8859	1.8940	1.9039	1.9153	1.9278	1.9410
	0.5765	0.5772	0.5794	0.5830	0.5877	0.5935	0.6000	0.6069	0.6141
	0.0000	0.0329	0.0646	0.0941	0.1203	0.1423	0.1593	0.1706	0.1757
	1.0642	1.0579	1.0393	1.0096	0.9705	0.9241	0.8729	0.8194	0.7659
0.60	3.4618	3.4518	3.4222	3.3741	3.3092	3.2300	3.1395	3.0410	2.9385
	1.8783	1.8795	1.8832	1.8891	1.8971	1.9070	1.9183	1.9307	1.9438
	0.5686	0.5694	0.5717	0.5754	0.5803	0.5863	0.5930	0.6002	0.6076
	0.0000	0.0332	0.0653	0.0950	0.1214	0.1436	0.1606	0.1719	0.1768
0.65	1.0584	1.0522	1.0338	1.0045	0.9657	0.9198	0.8690	0.8158	0.7627
	3.4483	3.4385	3.4095	3.3623	3.2986	3.2206	3.1312	3.0337	2.9317
	1.8816	1.8828	1.8865	1.8923	1.9003	1.9100	1.9213	1.9337	1.9467
	0.5608	0.5616	0.5640	0.5678	0.5730	0.5791	0.5861	0.5935	0.6011
0.70	0.0000	0.0335	0.0659	0.0959	0.1225	0.1448	0.1618	0.1730	0.1779
	1.0522	1.0460	1.0279	0.9989	0.9605	0.9150	0.8647	0.8120	0.7592
	3.4338	3.4243	3.3959	3.3496	3.2870	3.2102	3.1219	3.0253	2.9240
	1.8850	1.8862	1.8897	1.8956	1.9035	1.9131	1.9243	1.9366	1.9495
0.75	0.5530	0.5539	0.5563	0.5603	0.5656	0.5720	0.5793	0.5869	0.5947
	0.0000	0.0338	0.0665	0.0967	0.1235	0.1459	0.1629	0.1741	0.1788
	1.0456	1.0395	1.0216	0.9929	0.9550	0.9100	0.8601	0.8078	0.7554
	3.4183	3.4090	3.3812	3.3358	3.2743	3.1987	3.1116	3.0159	2.9152
0.80	1.8883	1.8895	1.8931	1.8988	1.9066	1.9162	1.9273	1.9395	1.9523
	0.5453	0.5461	0.5487	0.5528	0.5583	0.5650	0.5724	0.5803	0.5883
	0.0000	0.0341	0.0670	0.0975	0.1245	0.1469	0.1640	0.1751	0.1797
	1.0385	1.0325	1.0148	0.9865	0.9490	0.9045	0.8551	0.8033	0.7512
0.85	3.4018	3.3926	3.3654	3.3210	3.2606	3.1862	3.1002	3.0055	2.9054
	1.8917	1.8929	1.8964	1.9021	1.9099	1.9194	1.9304	1.9424	1.9552
	0.5375	0.5384	0.5410	0.5453	0.5511	0.5579	0.5656	0.5728	0.5800
	0.0000	0.0344	0.0676	0.0983	0.1254	0.1479	0.1650	0.1760	0.1804
0.90	1.0309	1.0250	1.0076	0.9796	0.9427	0.8987	0.8498	0.7985	0.7468
	3.3841	3.3752	3.3486	3.3050	3.2458	3.1727	3.0878	2.9940	2.8947
	1.8952	1.8963	1.8998	1.9055	1.9131	1.9225	1.9334	1.9454	1.9581
	0.5297	0.5306	0.5334	0.5378	0.5438	0.5509	0.5588	0.5672	0.5757
0.95	0.0000	0.0347	0.0681	0.0990	0.1262	0.1488	0.1659	0.1768	0.1812
	1.0230	1.0171	1.0000	0.9724	0.9359	0.8925	0.8442	0.7933	0.7421
	3.3654	3.3566	3.3306	3.2880	3.2300	3.1581	3.0744	2.9817	2.8830
	1.8987	1.8998	1.9032	1.9088	1.9164	1.9257	1.9365	1.9484	1.9610
1.00	0.5219	0.5229	0.5257	0.5303	0.5365	0.5438	0.5520	0.5606	0.5693
	0.0000	0.0349	0.0686	0.0997	0.1271	0.1497	0.1668	0.1776	0.1818
	1.0145	1.0088	0.9919	0.9647	0.9288	0.8859	0.8382	0.7878	0.7370
	3.3455	3.3370	3.3116	3.2699	3.2130	3.1423	3.0599	2.9682	2.8702
F _x	1.9022	1.9034	1.9067	1.9123	1.9197	1.9290	1.9396	1.9514	1.9639
	0.5140	0.5150	0.5180	0.5228	0.5291	0.5367	0.5451	0.5540	0.5629
	0.0000	0.0352	0.0691	0.1003	0.1279	0.1506	0.1676	0.1784	0.1824
	1.0056	0.9999	0.9833	0.9566	0.9212	0.8789	0.8317	0.7819	0.7316
F _x	3.3244	3.3161	3.2913	3.2506	3.1949	3.1255	3.0443	2.9536	2.8563
	1.9058	1.9070	1.9103	1.9158	1.9232	1.9323	1.9428	1.9545	1.9669
	0.5061	0.5071	0.5102	0.5151	0.5217	0.5295	0.5382	0.5474	0.5565
	0.0000	0.0354	0.0695	0.1010	0.1286	0.1514	0.1684	0.1791	0.1830
F _x	0.9961	0.9906	0.9742	0.9479	0.9131	0.8714	0.8249	0.7757	0.7258
	3.3020	3.2939	3.2698	3.2300	3.1755	3.1074	3.0274	2.9378	2.8413
F _x	0.4590	0.4591	0.4596	0.4604	0.4616	0.4630	0.4646	0.4664	0.4684

$$M_{\infty} = 5, \beta_K = 20^\circ, \alpha = 5^\circ$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.00	1.8910	1.8999	1.9083	1.9158	1.9220	1.9267	1.9296	1.9830	1.9306
	0.6883	0.6915	0.6946	0.6973	0.6996	0.7013	0.7023	0.7217	0.7027
	0.1414	0.1357	0.1243	0.1073	0.0852	0.0592	0.0303	0.0000	0.0000
	0.7278	0.6806	0.6397	0.6060	0.5800	0.5615	0.5506	0.5469	0.5469
0.05	2.6389	2.5155	2.4066	2.3155	2.2439	2.1926	2.1620	2.4749	2.1518
	1.9220	1.9359	1.9491	1.9612	1.9714	1.9792	1.9841	1.9858	
	0.6902	0.6954	0.7004	0.7049	0.7087	0.7116	0.7135	0.7140	
	0.1487	0.1427	0.1307	0.1130	0.0901	0.0628	0.0323	0.0000	
0.10	0.7283	0.6810	0.6401	0.6063	0.5800	0.5615	0.5504	0.5467	
	2.8205	2.7261	2.6453	2.5804	2.5319	2.4991	2.4803	2.4742	
	1.9265	1.9403	1.9533	1.9650	1.9749	1.9823	1.9869	1.9885	
	0.6829	0.6882	0.6932	0.6977	0.7015	0.7043	0.7061	0.7067	
0.15	0.1546	0.1484	0.1361	0.1178	0.0940	0.0656	0.0337	0.0000	
	0.7285	0.6811	0.6401	0.6061	0.5797	0.5610	0.5499	0.5462	
	2.8354	2.7404	2.6578	2.5898	2.5376	2.5011	2.4796	2.4725	
	1.9303	1.9440	1.9568	1.9683	1.9779	1.9852	1.9897	1.9912	
0.20	0.0755	0.6810	0.6861	0.6906	0.6944	0.6973	0.6991	0.6996	
	0.1588	0.1524	0.1397	0.1210	0.0965	0.0673	0.0346	0.0000	
	0.7283	0.6809	0.6397	0.6057	0.5791	0.5603	0.5491	0.5453	
	2.8438	2.7482	2.6642	2.5941	2.5394	2.5005	2.4774	2.4697	
0.25	1.9337	1.9473	1.9600	1.9714	1.9808	1.9879	1.9923	1.9938	
	0.6683	0.6738	0.6791	0.6837	0.6875	0.6904	0.6922	0.6928	
	0.1621	0.1554	0.1425	0.1233	0.0983	0.0685	0.0352	0.0000	
	0.7277	0.6803	0.6391	0.6049	0.5782	0.5593	0.5479	0.5442	
0.30	2.8488	2.7526	2.6674	2.5956	2.5391	2.4984	2.4741	2.4659	
	1.9369	1.9504	1.9631	1.9743	1.9836	1.9906	1.9949	1.9964	
	0.6611	0.6669	0.6722	0.6769	0.6808	0.6837	0.6856	0.6862	
	0.1647	0.1579	0.1446	0.1250	0.0996	0.0694	0.0357	0.0000	
0.35	0.7268	0.6794	0.6381	0.6038	0.5770	0.5579	0.5465	0.5427	
	2.8514	2.7548	2.6685	2.5953	2.5371	2.4951	2.4698	2.4613	
	1.9400	1.9534	1.9660	1.9771	1.9863	1.9932	1.9975	1.9990	
	0.6542	0.6600	0.6655	0.6703	0.6742	0.6772	0.6791	0.6797	
0.40	0.1670	0.1599	0.1463	0.1264	0.1007	0.0701	0.0360	0.0000	
	0.7255	0.6782	0.6368	0.6025	0.5755	0.5563	0.5449	0.5410	
	2.8522	2.7551	2.6679	2.5935	2.5340	2.4907	2.4645	2.4557	
	1.9430	1.9563	1.9688	1.9798	1.9890	1.9958	2.0001	2.0015	
0.45	0.6473	0.6533	0.6589	0.6638	0.6678	0.6708	0.6727	0.6733	
	0.1688	0.1615	0.1477	0.1274	0.1014	0.0706	0.0362	0.0000	
	0.7240	0.6767	0.6353	0.6008	0.5738	0.5545	0.5429	0.5391	
	2.8514	2.7539	2.6659	2.5904	2.5297	2.4853	2.4584	2.4494	
0.50	1.9459	1.9592	1.9715	1.9825	1.9916	1.9984	2.0026	2.0040	
	0.6406	0.6468	0.6524	0.6574	0.6615	0.6646	0.6665	0.6671	
	0.1705	0.1629	0.1488	0.1283	0.1020	0.0710	0.0364	0.0000	
	0.7221	0.6749	0.6335	0.5989	0.5718	0.5524	0.5407	0.5369	
0.55	2.8493	2.7515	2.6627	2.5862	2.5244	2.4791	2.4515	2.4422	
	1.9488	1.9619	1.9743	1.9852	1.9942	2.0010	2.0051	2.0066	
	0.6340	0.6403	0.6461	0.6512	0.6553	0.6584	0.6603	0.6610	
	0.1719	0.1641	0.1498	0.1290	0.1025	0.0712	0.0365	0.0000	
0.60	0.7200	0.6728	0.6314	0.5968	0.5695	0.5500	0.5383	0.5344	
	2.8459	2.7478	2.6584	2.5809	2.5181	2.4719	2.4438	2.4343	
	1.9516	1.9647	1.9769	1.9878	1.9968	2.0035	2.0077	2.0091	
	0.6275	0.6340	0.6399	0.6450	0.6492	0.6523	0.6543	0.6549	
0.65	0.1731	0.1652	0.1505	0.1295	0.1029	0.0714	0.0366	0.0000	
	0.7175	0.6704	0.6290	0.5944	0.5671	0.5474	0.5357	0.5317	
	2.8414	2.7431	2.6533	2.5747	2.5110	2.4640	2.4353	2.4255	

$$M_{\infty} = 5, \beta_k = 20^\circ, \alpha = 5^\circ$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.55	1.9544 0.6211 0.1742 0.7148 2.8359	1.9674 0.6277 0.1660 0.6678 2.7373	1.9796 0.6337 0.1512 0.6264 2.6467	1.9904 0.6389 0.1300 0.5917 2.5676	1.9994 0.6432 0.1032 0.5643 2.5029	2.0061 0.6463 0.0716 0.5446 2.4552	2.0102 0.6483 0.0367 0.5328 2.4259	2.0116 0.6489 0.0000 0.5288 2.4160	
0.60	1.9571 0.6148 0.1752 0.7118 2.8293	1.9701 0.6215 0.1668 0.6649 2.7306	1.9823 0.6276 0.1517 0.6236 2.6394	1.9930 0.6329 0.1304 0.5888 2.5595	2.0020 0.6372 0.1034 0.5613 2.4941	2.0087 0.6404 0.0717 0.5416 2.4456	2.0128 0.6423 0.0367 0.5297 2.4158	2.0142 0.6430 0.0000 0.5257 2.4058	
0.65	1.9599 0.6085 0.1760 0.7085 2.8218	1.9728 0.6154 0.1674 0.6618 2.7229	1.9849 0.6216 0.1522 0.6205 2.6312	1.9956 0.6270 0.1306 0.5857 2.5506	2.0046 0.6313 0.1035 0.5581 2.4844	2.0112 0.6344 0.0717 0.5383 2.4352	2.0154 0.6364 0.0367 0.5263 2.4049	2.0168 0.6370 0.0000 0.5223 2.3947	
0.70	1.9627 0.6023 0.1768 0.7049 2.8133	1.9755 0.6093 0.1680 0.6584 2.7142	1.9876 0.6156 0.1526 0.6171 2.6221	1.9983 0.6210 0.1308 0.5823 2.5408	2.0072 0.6254 0.1036 0.5546 2.4738	2.0139 0.6285 0.0718 0.5347 2.4239	2.0180 0.6305 0.0367 0.5227 2.3932	2.0194 0.6311 0.0000 0.5186 2.3828	
0.75	1.9654 0.5961 0.1775 0.7011 2.8038	1.9782 0.6033 0.1685 0.6547 2.7046	1.9902 0.6097 0.1529 0.6135 2.6121	2.0009 0.6151 0.1310 0.5786 2.5301	2.0098 0.6195 0.1036 0.5509 2.4623	2.0165 0.6226 0.0717 0.5309 2.4118	2.0207 0.6245 0.0367 0.5188 2.3806	2.0221 0.6252 0.0000 0.5148 2.3700	
0.80	1.9682 0.5899 0.1781 0.6969 2.7934	1.9809 0.5973 0.1689 0.6507 2.6941	1.9929 0.6037 0.1531 0.6096 2.6011	2.0036 0.6092 0.1311 0.5747 2.5185	2.0125 0.6135 0.1036 0.5469 2.4500	2.0192 0.6167 0.0717 0.5268 2.3987	2.0234 0.6186 0.0367 0.5147 2.3670	2.0248 0.6192 0.0000 0.5106 2.3563	
0.85	1.9710 0.5838 0.1786 0.6925 2.7819	1.9837 0.5912 0.1693 0.6464 2.6826	1.9956 0.5978 0.1533 0.6054 2.5892	2.0063 0.6033 0.1311 0.5705 2.5059	2.0152 0.6076 0.1036 0.5427 2.4367	2.0220 0.6107 0.0716 0.5225 2.3846	2.0261 0.6125 0.0366 0.5103 2.3525	2.0276 0.6131 0.0000 0.5062 2.3416	
0.90	1.9738 0.5776 0.1791 0.6878 2.7695	1.9865 0.5852 0.1696 0.6419 2.6701	1.9984 0.5918 0.1534 0.6009 2.5763	2.0091 0.5973 0.1311 0.5660 2.4924	2.0180 0.6015 0.1035 0.5381 2.4223	2.0248 0.6046 0.0715 0.5178 2.3696	2.0290 0.6064 0.0366 0.5055 2.3370	2.0304 0.6070 0.0000 0.5014 2.3258	
0.95	1.9767 0.5714 0.1796 0.6827 2.7560	1.9893 0.5791 0.1698 0.6370 2.6566	2.0012 0.5858 0.1535 0.5961 2.5624	2.0119 0.5912 0.1311 0.5612 2.4777	2.0209 0.5954 0.1034 0.5332 2.4069	2.0277 0.5984 0.0714 0.5128 2.3534	2.0319 0.6001 0.0365 0.5004 2.3202	2.0334 0.6007 0.0000 0.4963 2.3089	
1.00	1.9796 0.5651 0.1800 0.6773 2.7414	1.9922 0.5729 0.1701 0.6318 2.6419	2.0041 0.5796 0.1536 0.5910 2.5473	2.0148 0.5851 0.1310 0.5560 2.4619	2.0238 0.5892 0.1033 0.5280 2.3902	2.0307 0.5921 0.0713 0.5075 2.3359	2.0350 0.5937 0.0364 0.4950 2.3021	2.0364 0.5943 0.0000 0.4908 2.2906	
F_x	0.4704	0.4723	0.4741	0.4756	0.4769	0.4778	0.4784	0.4786	

$$M_{\infty} = 5, \beta_{\kappa} = 20^{\circ}, \alpha = 10^{\circ}$$

ξ	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.00	1.7432	1.7448	1.7493	1.7568	1.7672	1.7801	1.7953	1.8124	1.8310
	0.6345	0.6350	0.6367	0.6394	0.6432	0.6479	0.6534	0.6597	0.6664
	0.0000	0.0485	0.0959	0.1412	0.1831	0.2205	0.2524	0.2775	0.2945
	1.4452	1.4286	1.3803	1.3043	1.2064	1.0940	0.9748	0.8560	0.7439
	3.9538	3.9214	3.8263	3.6745	3.4754	3.2410	2.9846	2.7200	2.4604
0.05	1.7469	1.7490	1.7553	1.7657	1.7799	1.7975	1.8182	1.8415	1.8667
	0.6246	0.6254	0.6278	0.6318	0.6373	0.6441	0.6520	0.6609	0.6705
	0.0000	0.0510	0.1006	0.1477	0.1907	0.2286	0.2601	0.2841	0.2992
	1.4448	1.4283	1.3804	1.3048	1.2076	1.0958	0.9771	0.8587	0.7468
	3.9531	3.9252	3.8434	3.7123	3.5396	3.3351	3.1100	2.8765	2.6468
0.10	1.7505	1.7527	1.7593	1.7702	1.7850	1.8034	1.8249	1.8489	1.8748
	0.6148	0.6157	0.6184	0.6228	0.6289	0.6363	0.6450	0.6547	0.6650
	0.0000	0.0528	0.1041	0.1526	0.1969	0.2356	0.2676	0.2916	0.3066
	1.4437	1.4274	1.3798	1.3047	1.2081	1.0971	0.9790	0.8611	0.7494
	3.9509	3.9244	3.8464	3.7212	3.5559	3.3596	3.1427	2.9167	2.6932
0.15	1.7541	1.7564	1.7632	1.7743	1.7895	1.8082	1.8301	1.8545	1.8807
	0.6052	0.6062	0.6091	0.6139	0.6204	0.6285	0.6378	0.6481	0.6591
	0.0000	0.0543	0.1070	0.1567	0.2020	0.2414	0.2738	0.2980	0.3128
	1.4418	1.4257	1.3785	1.3041	1.2082	1.0979	0.9805	0.8631	0.7518
	3.9473	3.9219	3.8469	3.7264	3.5670	3.3770	3.1664	2.9460	2.7267
0.20	1.7577	1.7600	1.7669	1.7782	1.7936	1.8125	1.8346	1.8592	1.8855
	0.5957	0.5968	0.5999	0.6051	0.6120	0.6206	0.6306	0.6415	0.6531
	0.0000	0.0556	0.1096	0.1604	0.2065	0.2466	0.2793	0.3034	0.3181
	1.4393	1.4233	1.3766	1.3028	1.2077	1.0982	0.9816	0.8649	0.7540
	3.9424	3.9179	3.8455	3.7292	3.5748	3.3904	3.1852	2.9695	2.7536
0.25	1.7613	1.7636	1.7706	1.7820	1.7975	1.8166	1.8387	1.8633	1.8897
	0.5864	0.5875	0.5909	0.5963	0.6038	0.6129	0.6235	0.6350	0.6471
	0.0000	0.0568	0.1120	0.1638	0.2107	0.2512	0.2841	0.3083	0.3227
	1.4361	1.4203	1.3740	1.3010	1.2068	1.0982	0.9824	0.8663	0.7559
	3.9362	3.9125	3.8426	3.7300	3.5803	3.4009	3.2006	2.9890	2.7761
0.30	1.7649	1.7673	1.7743	1.7857	1.8012	1.8203	1.8425	1.8671	1.8934
	0.5771	0.5783	0.5819	0.5877	0.5956	0.6053	0.6164	0.6286	0.6412
	0.0000	0.0580	0.1142	0.1669	0.2145	0.2555	0.2886	0.3127	0.3268
	1.4323	1.4166	1.3709	1.2986	1.2053	1.0977	0.9828	0.8675	0.7575
	3.9287	3.9058	3.8382	3.7292	3.5839	3.4092	3.2134	3.0057	2.7954
0.35	1.7685	1.7709	1.7779	1.7893	1.8048	1.8240	1.8461	1.8706	1.8968
	0.5680	0.5693	0.5731	0.5793	0.5876	0.5978	0.6096	0.6223	0.6354
	0.0000	0.0590	0.1162	0.1697	0.2180	0.2594	0.2927	0.3167	0.3304
	1.4279	1.4124	1.3671	1.2956	1.2033	1.0967	0.9828	0.8683	0.7589
	3.9200	3.8979	3.8325	3.7268	3.5857	3.4156	3.2241	3.0200	2.8122
0.40	1.7721	1.7745	1.7815	1.7929	1.8084	1.8274	1.8495	1.8739	1.8999
	0.5590	0.5603	0.5643	0.5709	0.5797	0.5905	0.6028	0.6161	0.6298
	0.0000	0.0600	0.1181	0.1725	0.2213	0.2631	0.2965	0.3203	0.3337
	1.4228	1.4075	1.3628	1.2922	1.2009	1.0954	0.9825	0.8688	0.7600
	3.9101	3.8887	3.8255	3.7231	3.5861	3.4203	3.2330	3.0323	2.8268
0.45	1.7757	1.7781	1.7850	1.7964	1.8118	1.8308	1.8528	1.8770	1.9029
	0.5500	0.5514	0.5557	0.5626	0.5719	0.5832	0.5961	0.6101	0.6244
	0.0000	0.0610	0.1200	0.1751	0.2245	0.2666	0.3000	0.3237	0.3367
	1.4172	1.4021	1.3580	1.2882	1.1980	1.0937	0.9819	0.8691	0.7609
	3.8990	3.8784	3.8172	3.7181	3.5850	3.4235	3.2403	3.0430	2.8398
0.50	1.7793	1.7817	1.7886	1.7999	1.8153	1.8341	1.8559	1.8800	1.9057
	0.5411	0.5426	0.5471	0.5544	0.5642	0.5761	0.5896	0.6042	0.6190
	0.0000	0.0619	0.1227	0.1775	0.2274	0.2699	0.3034	0.3268	0.3394
	1.4110	1.3961	1.3516	1.2838	1.1947	1.0916	0.9809	0.8691	0.7616
	3.8868	3.8668	3.8077	3.7118	3.5826	3.4253	3.2461	3.0521	2.8511

$$M_{\odot} = 5, \beta_K = 20^\circ, \alpha = 10^\circ$$

ξ	ψ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.55	1.7830	1.7853	1.7922	1.8034	1.8186	1.8374	1.8590	1.8829	1.9083
	0.5323	0.5339	0.5386	0.5463	0.5565	0.5690	0.5832	0.5984	0.6138
	0.0000	0.0628	0.1234	0.1799	0.2303	0.2730	0.3065	0.3298	0.3419
	1.4042	1.3895	1.3467	1.2788	1.1910	1.0891	0.9796	0.8688	0.7620
0.60	3.8734	3.8542	3.7971	3.7042	3.5789	3.4258	3.2506	3.0599	2.8610
	1.7866	1.7889	1.7958	1.8069	1.8220	1.8405	1.8620	1.8857	1.9109
	0.5236	0.5252	0.5302	0.5382	0.5490	0.5621	0.5769	0.5927	0.6087
	0.0000	0.0636	0.1250	0.1822	0.2330	0.2760	0.3095	0.3325	0.3442
0.65	1.3968	1.3824	1.3402	1.2734	1.1868	1.0862	0.9780	0.8683	0.7623
	3.8589	3.8404	3.7853	3.6955	3.5741	3.4251	3.2538	3.0663	2.8697
	1.7903	1.7926	1.7994	1.8104	1.8253	1.8437	1.8649	1.8883	1.9133
	0.5148	0.5166	0.5218	0.5302	0.5415	0.5552	0.5706	0.5871	0.6038
0.70	0.0000	0.0644	0.1266	0.1844	0.2357	0.2788	0.3123	0.3351	0.3463
	1.3889	1.3747	1.3332	1.2675	1.1821	1.0830	0.9761	0.8675	0.7623
	3.8433	3.8254	3.7723	3.6857	3.5680	3.4231	3.2558	3.0716	2.8772
	1.7940	1.7963	1.8030	1.8139	1.8286	1.8468	1.8678	1.8910	1.9157
0.75	0.5061	0.5080	0.5134	0.5222	0.5340	0.5483	0.5645	0.5816	0.5989
	0.0000	0.0652	0.1281	0.1865	0.2382	0.2816	0.3151	0.3376	0.3482
	1.3804	1.3665	1.3257	1.2610	1.1771	1.0793	0.9738	0.8664	0.7621
	3.8265	3.8093	3.7582	3.6746	3.5608	3.4200	3.2566	3.0757	2.8836
0.80	1.7978	1.8000	1.8066	1.8174	1.8319	1.8499	1.8706	1.8935	1.9180
	0.4975	0.4994	0.5051	0.5133	0.5266	0.5416	0.5584	0.5762	0.5941
	0.0000	0.0660	0.1296	0.1885	0.2407	0.2842	0.3177	0.3399	0.3501
	1.3714	1.3577	1.3177	1.2511	1.1716	1.0753	0.9713	0.8651	0.7617
0.85	3.8085	3.7921	3.7430	3.6624	3.5524	3.4158	3.2563	3.0788	2.8889
	1.8016	1.8038	1.8103	1.8209	1.8352	1.8529	1.8734	1.8960	1.9202
	0.4888	0.4908	0.4967	0.5064	0.5193	0.5349	0.5524	0.5709	0.5895
	0.0000	0.0668	0.1311	0.1905	0.2431	0.2868	0.3202	0.3421	0.3518
0.90	1.3617	1.3483	1.3091	1.2467	1.1656	1.0709	0.9684	0.8635	0.7611
	3.7894	3.7736	3.7265	3.6491	3.5429	3.4104	3.2550	3.0808	2.8933
	1.8054	1.8076	1.8140	1.8244	1.8386	1.8560	1.8762	1.8985	1.9224
	0.4801	0.4822	0.4884	0.4984	0.5119	0.5282	0.5464	0.5656	0.5849
0.95	0.0000	0.0675	0.1325	0.1925	0.2454	0.2893	0.3226	0.3442	0.3534
	1.3515	1.3384	1.2999	1.2388	1.1592	1.0662	0.9652	0.8616	0.7603
	3.7691	3.7540	3.7089	3.6345	3.5322	3.4039	3.2525	3.0818	2.8967
	1.8093	1.8114	1.8177	1.8280	1.8419	1.8591	1.8789	1.9010	1.9246
1.00	0.4713	0.4735	0.4800	0.4905	0.5046	0.5215	0.5404	0.5604	0.5803
	0.0000	0.0682	0.1338	0.1944	0.2477	0.2917	0.3249	0.3462	0.3549
	1.3407	1.3279	1.2902	1.2304	1.1524	1.0610	0.9617	0.8595	0.7592
	3.7475	3.7331	3.6900	3.6188	3.5203	3.3963	3.2490	3.0818	2.8992
F _x	1.8132	1.8153	1.8215	1.8316	1.8453	1.8621	1.8817	1.9034	1.9267
	0.4625	0.4648	0.4716	0.4826	0.4972	0.5148	0.5345	0.5553	0.5759
	0.0000	0.0689	0.1352	0.1962	0.2499	0.2940	0.3272	0.3482	0.3564
	1.3293	1.3167	1.2800	1.2214	1.1450	1.0554	0.9578	0.8571	0.7580
F _x	3.7247	3.7110	3.6699	3.6018	3.5072	3.3875	3.2443	3.0807	2.9007
	1.8173	1.8193	1.8254	1.8353	1.8487	1.8652	1.8844	1.9058	1.9288
	0.4537	0.4561	0.4631	0.4745	0.4898	0.5081	0.5286	0.5501	0.5714
	0.0000	0.0696	0.1365	0.1981	0.2520	0.2963	0.3294	0.3500	0.3577
F _x	1.3172	1.3050	1.2691	1.2119	1.1372	1.0494	0.9535	0.8544	0.7565
	3.7005	3.6874	3.6484	3.5834	3.4929	3.3775	3.2386	3.0787	2.9014
	0.4571	0.4574	0.4584	0.4600	0.4624	0.4654	0.4691	0.4734	0.4782

$$M_{\infty} = 5, \beta_K = 20^\circ, \alpha = 10^\circ$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.00	1.8506 0.6736 0.3019 0.6432 2.2176	1.8706 0.6808 0.2980 0.5572 2.0016	1.8900 0.6879 0.2807 0.4879 1.8203	1.9079 0.6941 0.2479 0.4356 1.6789	1.9231 0.7000 0.1987 0.3996 1.5785	1.9345 0.7041 0.1364 0.3773 1.5151	1.9412 0.7065 0.0688 0.3657 1.4816	2.0317 0.7395 0.0000 0.3621 1.9125	1.9434 0.7073 0.0000 0.3621 1.4712
0.05	1.8933 0.6806 0.3044 0.6401 2.4324	1.9205 0.6909 0.2983 0.5599 2.2442	1.9476 0.7011 0.2795 0.4901 2.0918	1.9735 0.7108 0.2467 0.4373 1.9834	1.9970 0.7197 0.2000 0.4006 1.9227	2.0166 0.7269 0.1414 0.3778 1.9040	2.0295 0.7316 0.0737 0.3657 1.9079	2.0340 0.7331 0.0000 0.3620 1.9120	
0.10	1.9020 0.6758 0.3115 0.6488 2.4831	1.9295 0.6865 0.3051 0.5624 2.2969	1.9564 0.6969 0.2862 0.4922 2.1438	1.9817 0.7066 0.2536 0.4389 2.0308	2.0039 0.7151 0.2070 0.4015 1.9604	2.0214 0.7218 0.1475 0.3781 1.9260	2.0324 0.7260 0.0771 0.3655 1.9136	2.0362 0.7274 0.0000 0.3616 1.9107	
0.15	1.9080 0.6703 0.3174 0.6513 2.5192	1.9355 0.6814 0.3106 0.5648 2.3334	1.9622 0.6920 0.2913 0.4942 2.1781	1.9869 0.7016 0.2584 0.4403 2.0600	2.0083 0.7099 0.2113 0.4023 1.9812	2.0246 0.7164 0.1506 0.3782 1.9365	2.0348 0.7207 0.0787 0.3652 1.9151	2.0382 0.7220 0.0000 0.3611 1.9086	
0.20	1.9128 0.6647 0.3223 0.6536 2.5478	1.9402 0.6761 0.3150 0.5669 2.3617	1.9667 0.6869 0.2952 0.4960 2.2038	1.9909 0.6965 0.2617 0.4415 2.0808	2.0116 0.7048 0.2140 0.4028 1.9949	2.0273 0.7112 0.1524 0.3781 1.9422	2.0370 0.7155 0.0795 0.3646 1.9147	2.0402 0.7169 0.0000 0.3604 1.9059	
0.25	1.9169 0.6592 0.3265 0.6556 2.5716	1.9441 0.6709 0.3186 0.5689 2.3849	1.9703 0.6818 0.2982 0.4976 2.2244	1.9942 0.6914 0.2641 0.4425 2.0966	2.0145 0.6997 0.2156 0.4032 2.0045	2.0297 0.7062 0.1533 0.3778 1.9454	2.0390 0.7106 0.0798 0.3639 1.9131	2.0422 0.7120 0.0000 0.3595 1.9026	
0.30	1.9205 0.6538 0.3300 0.6575 2.5920	1.9476 0.6658 0.3216 0.5706 2.4046	1.9735 0.6768 0.3004 0.4990 2.2413	1.9971 0.6865 0.2657 0.4434 2.1091	2.0170 0.6948 0.2166 0.4034 2.0114	2.0319 0.7013 0.1537 0.3774 1.9468	2.0410 0.7057 0.0799 0.3630 1.9106	2.0441 0.7072 0.0000 0.3584 1.8987	
0.35	1.9238 0.6485 0.3331 0.6591 2.6097	1.9506 0.6608 0.3240 0.5722 2.4214	1.9764 0.6720 0.3022 0.5002 2.2556	1.9997 0.6818 0.2667 0.4441 2.1191	2.0194 0.6900 0.2171 0.4034 2.0163	2.0341 0.6966 0.1538 0.3768 1.9468	2.0430 0.7010 0.0798 0.3620 1.9073	2.0460 0.7026 0.0000 0.3573 1.8943	
0.40	1.9267 0.6433 0.3359 0.6605 2.6252	1.9534 0.6560 0.3260 0.5736 2.4361	1.9790 0.6674 0.3035 0.5013 2.2677	2.0021 0.6771 0.2673 0.4446 2.1273	2.0216 0.6854 0.2172 0.4033 2.0197	2.0361 0.6919 0.1536 0.3760 1.9458	2.0449 0.6964 0.0796 0.3608 1.9033	2.0479 0.6980 0.0000 0.3559 1.8892	
0.45	1.9295 0.6383 0.3382 0.6618 2.6389	1.9560 0.6513 0.3277 0.5748 2.4490	1.9814 0.6629 0.3044 0.5022 2.2781	2.0044 0.6727 0.2676 0.4449 2.1338	2.0237 0.6809 0.2170 0.4030 2.0218	2.0381 0.6874 0.1532 0.3751 1.9439	2.0469 0.6919 0.0793 0.3595 1.8986	2.0499 0.6934 0.0000 0.3544 1.8836	
0.50	1.9321 0.6335 0.3403 0.6628 2.6511	1.9584 0.6468 0.3291 0.5759 2.4603	1.9836 0.6585 0.3051 0.5030 2.2870	2.0065 0.6684 0.2677 0.4452 2.1391	2.0257 0.6765 0.2166 0.4025 2.0229	2.0401 0.6829 0.1527 0.3740 1.9411	2.0489 0.6874 0.0790 0.3580 1.8932	2.0518 0.6889 0.0000 0.3528 1.8773	

$$M_{\infty} = 5, \xi_K = 20^\circ, \alpha = 10^\circ$$

φ	θ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.55	1.9346 0.6288 0.3422 0.6636 2.6618	1.9607 0.6424 0.3302 0.5768 2.4702	1.9857 0.6543 0.3055 0.5036 2.2946	2.0085 0.6642 0.2675 0.4452 2.1432	2.0277 0.6722 0.2160 0.4019 2.0230	2.0421 0.6785 0.1521 0.3728 1.9375	2.0508 0.6829 0.0786 0.3563 1.8872	2.0538 0.6844 0.0000 0.3510 1.8704	
0.60	1.9369 0.6242 0.3439 0.6643 2.6713	1.9628 0.6382 0.3312 0.5775 2.4790	1.9877 0.6502 0.3057 0.5041 2.3012	2.0105 0.6601 0.2671 0.4451 2.1464	2.0297 0.6680 0.2153 0.4011 2.0222	2.0441 0.6742 0.1514 0.3714 1.9332	2.0528 0.6784 0.0782 0.3545 1.8805	2.0558 0.6798 0.0000 0.3490 1.8629	
0.65	1.9391 0.6197 0.3453 0.6648 2.6796	1.9649 0.6341 0.3319 0.5781 2.4866	1.9897 0.6463 0.3058 0.5044 2.3067	2.0124 0.6561 0.2666 0.4449 2.1486	2.0316 0.6639 0.2145 0.4002 2.0206	2.0460 0.6698 0.1506 0.3698 1.9281	2.0549 0.6739 0.0777 0.3525 1.8731	2.0579 0.6753 0.0000 0.3469 1.8547	
0.70	1.9413 0.6154 0.3467 0.6651 2.6869	1.9668 0.6301 0.3325 0.5785 2.4933	1.9915 0.6425 0.3057 0.5046 2.3114	2.0142 0.6523 0.2660 0.4445 2.1501	2.0335 0.6598 0.2136 0.3992 2.0183	2.0481 0.6655 0.1497 0.3681 1.9223	2.0570 0.6693 0.0772 0.3503 1.8650	2.0600 0.6706 0.0000 0.3445 1.8458	
0.75	1.9433 0.6111 0.3479 0.6653 2.6932	1.9687 0.6262 0.3330 0.5788 2.4991	1.9933 0.6387 0.3054 0.5046 2.3152	2.0160 0.6485 0.2652 0.4441 2.1508	2.0354 0.6558 0.2126 0.3980 2.0152	2.0501 0.6611 0.1488 0.3662 1.9158	2.0591 0.6647 0.0767 0.3480 1.8560	2.0622 0.6659 0.0000 0.3420 1.8360	
0.80	1.9453 0.6070 0.3489 0.6652 2.6986	1.9706 0.6224 0.3333 0.5790 2.5041	1.9951 0.6351 0.3051 0.5045 2.3183	2.0178 0.6448 0.2644 0.4434 2.1507	2.0373 0.6518 0.2116 0.3966 2.0115	2.0522 0.6568 0.1479 0.3641 1.9085	2.0614 0.6600 0.0761 0.3454 1.8462	2.0645 0.6611 0.0000 0.3392 1.8253	
0.85	1.9473 0.6029 0.3499 0.6650 2.7031	1.9724 0.6188 0.3336 0.5790 2.5082	1.9968 0.6316 0.3047 0.5043 2.3206	2.0195 0.6411 0.2634 0.4427 2.1500	2.0392 0.6478 0.2104 0.3951 2.0070	2.0543 0.6523 0.1469 0.3618 1.9003	2.0637 0.6551 0.0755 0.3425 1.8354	2.0669 0.6561 0.0000 0.3362 1.8136	
0.90	1.9492 0.5989 0.3508 0.6647 2.7068	1.9741 0.6152 0.3337 0.5788 2.5117	1.9985 0.6281 0.3042 0.5040 2.3223	2.0213 0.6375 0.2624 0.4418 2.1487	2.0411 0.6438 0.2093 0.3934 2.0017	2.0565 0.6477 0.1459 0.3593 1.8912	2.0662 0.6501 0.0750 0.3394 1.8235	2.0695 0.6508 0.0000 0.3328 1.8007	
0.95	1.9511 0.5950 0.3515 0.6641 2.7096	1.9758 0.6116 0.3338 0.5786 2.5144	2.0001 0.6248 0.3036 0.5035 2.3234	2.0230 0.6340 0.2614 0.4407 2.1467	2.0431 0.6398 0.2080 0.3915 1.9957	2.0588 0.6431 0.1448 0.3565 1.8811	2.0688 0.6448 0.0743 0.3359 1.8103	2.0722 0.6453 0.0000 0.3291 1.7863	
1.00	1.9529 0.5912 0.3523 0.6634 2.7117	1.9775 0.6082 0.3338 0.5781 2.5164	2.0017 0.6214 0.3030 0.5030 2.3238	2.0248 0.6305 0.2603 0.4396 2.1441	2.0451 0.6357 0.2067 0.3894 1.9890	2.0613 0.6382 0.1437 0.3534 1.8698	2.0716 0.6392 0.0737 0.3320 1.7954	2.0751 0.6394 0.0000 0.3249 1.7700	
F_x	0.4834	0.4887	0.4938	0.4983	0.5017	0.5039	0.5051	0.5055	

$$M_{\infty} = 5, \beta_{\kappa} = 20^{\circ}, \alpha = 15^{\circ}$$

ξ	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.00	1.6324 0.5942 0.0000 1.8277 4.2901	1.6347 0.5950 0.0708 1.7990 4.2420	1.6415 0.5975 0.1403 1.7160 4.1012	1.6527 0.6015 0.2071 1.5865 3.8777	1.6681 0.6071 0.2699 1.4227 3.5874	1.6874 0.6142 0.3273 1.2388 3.2496	1.7102 0.6225 0.3778 1.0493 2.8863	1.7362 0.6319 0.4203 0.8667 2.5178	1.7647 0.6423 0.4529 0.7011 2.1640
0.05	1.6364 0.5834 0.0000 1.8272 4.2894	1.6393 0.5845 0.0734 1.7988 4.2463	1.6479 0.5879 0.1452 1.7165 4.1199	1.6621 0.5934 0.2135 1.5881 3.9183	1.6815 0.6011 0.2769 1.4257 3.6546	1.7056 0.6106 0.3337 1.2431 3.3446	1.7340 0.6218 0.3823 1.0548 3.0079	1.7659 0.6344 0.4215 0.8731 2.6618	1.8007 0.6482 0.4497 0.7081 2.3260
0.10	1.6403 0.5727 0.0000 1.8258 4.2871	1.6434 0.5740 0.0756 1.7978 4.2461	1.6526 0.5778 0.1493 1.7162 4.1258	1.6675 0.5841 0.2192 1.5891 3.9335	1.6880 0.5928 0.2836 1.4281 3.6812	1.7133 0.6036 0.3408 1.2470 3.3835	1.7430 0.6162 0.3891 1.0600 3.0587	1.7763 0.6305 0.4273 0.8793 2.7233	1.8125 0.6459 0.4539 0.7149 2.3959
0.15	1.6443 0.5622 0.0000 1.8236 4.2833	1.6475 0.5636 0.0775 1.7958 4.2442	1.6569 0.5679 0.1530 1.7152 4.1290	1.6724 0.5749 0.2244 1.5893 3.9445	1.6934 0.5844 0.2897 1.4299 3.7019	1.7195 0.5963 0.3474 1.2504 3.4146	1.7500 0.6103 0.3957 1.0649 3.0999	1.7840 0.6260 0.4332 0.8853 2.7734	1.8208 0.6428 0.4586 0.7215 2.4531
0.20	1.6482 0.5518 0.0000 1.8205 4.2782	1.6515 0.5534 0.0793 1.7931 4.2406	1.6611 0.5580 0.1564 1.7133 4.1301	1.6769 0.5657 0.2292 1.5889 3.9528	1.6984 0.5761 0.2955 1.4311 3.7189	1.7248 0.5891 0.3537 1.2534 3.4412	1.7557 0.6043 0.4019 1.0694 3.1358	1.7901 0.6213 0.4389 0.8910 2.8174	1.8273 0.6395 0.4633 0.7280 2.5033
0.25	1.6522 0.5416 0.0000 1.8166 4.2716	1.6555 0.5433 0.0810 1.7895 4.2356	1.6653 0.5483 0.1597 1.7108 4.1295	1.6812 0.5566 0.2338 1.5878 3.9589	1.7029 0.5679 0.3010 1.4318 3.7334	1.7296 0.5820 0.3597 1.2559 3.4647	1.7607 0.5984 0.4079 1.0736 3.1679	1.7953 0.6167 0.4444 0.8966 2.8571	1.8325 0.6362 0.4680 0.7343 2.5489
0.30	1.6561 0.5314 0.0000 1.8120 4.2638	1.6595 0.5333 0.0827 1.7852 4.2292	1.6693 0.5387 0.1628 1.7075 4.1273	1.6854 0.5476 0.2382 1.5861 3.9632	1.7072 0.5598 0.3063 1.4320 3.7457	1.7341 0.5749 0.3654 1.2580 3.4857	1.7652 0.5925 0.4136 1.0775 3.1972	1.7998 0.6121 0.4497 0.9019 2.8938	1.8370 0.6329 0.4724 0.7406 2.5910
0.35	1.6601 0.5214 0.0000 1.8065 4.2546	1.6634 0.5234 0.0843 1.7801 4.2215	1.6733 0.5292 0.1659 1.7035 4.1236	1.6894 0.5387 0.2424 1.5838 3.9658	1.7113 0.5518 0.3114 1.4317 3.7561	1.7382 0.5680 0.3710 1.2598 3.5046	1.7693 0.5868 0.4192 1.0811 3.2243	1.8038 0.6076 0.4549 0.9070 2.9280	1.8408 0.6296 0.4767 0.7467 2.6305
0.40	1.6641 0.5115 0.0000 1.8003 4.2442	1.6674 0.5136 0.0858 1.7743 4.2124	1.6773 0.5198 0.1688 1.6989 4.1186	1.6934 0.5300 0.2465 1.5809 3.9670	1.7152 0.5439 0.3164 1.4309 3.7649	1.7420 0.5612 0.3764 1.2611 3.5217	1.7731 0.5812 0.4246 1.0845 3.2494	1.8074 0.6033 0.4598 0.9119 2.9601	1.8441 0.6265 0.4807 0.7527 2.6678
0.45	1.6680 0.5016 0.0000 1.7934 4.2325	1.6714 0.5038 0.0873 1.7678 4.2021	1.6812 0.5105 0.1717 1.6936 4.1122	1.6973 0.5214 0.2505 1.5774 3.9667	1.7190 0.5362 0.3212 1.4296 3.7722	1.7457 0.5545 0.3816 1.2621 3.5372	1.7766 0.5757 0.4298 1.0875 3.2729	1.8106 0.5991 0.4645 0.9167 2.9905	1.8470 0.6236 0.4846 0.7585 2.7031
0.50	1.6720 0.4918 0.0000 1.7857 4.2195	1.6754 0.4942 0.0888 1.7606 4.1905	1.6852 0.5012 0.1745 1.6876 4.1045	1.7011 0.5128 0.2545 1.5733 3.9651	1.7227 0.5285 0.3259 1.4278 3.7782	1.7492 0.5479 0.3867 1.2627 3.5513	1.7798 0.5704 0.4348 1.0903 3.2949	1.8135 0.5950 0.4691 0.9212 3.0193	1.8496 0.6207 0.4883 0.7643 2.7369

$$M_{\infty} = 5, \beta_k = 20^\circ, \alpha = 15^\circ$$

ε	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.55	1.6761 0.4821 0.0000 1.7773 4.2053	1.6794 0.4846 0.0902 1.7526 4.1776	1.6891 0.4921 0.1773 1.6810 4.0956	1.7049 0.5043 0.2583 1.5687 3.9622	1.7264 0.5209 0.3305 1.4255 3.7827	1.7526 0.5415 0.3917 1.2629 3.5640	1.7829 0.5652 0.4398 1.0928 3.3155	1.8162 0.5911 0.4736 0.9256 3.0467	1.8518 0.6181 0.4919 0.7700 2.7692
0.60	1.6801 0.4724 0.0000 1.7682 4.1899	1.6834 0.4751 0.0916 1.7440 4.1636	1.6930 0.4830 0.1800 1.6737 4.0854	1.7087 0.4959 0.2621 1.5635 3.9581	1.7299 0.5135 0.3350 1.4228 3.7860	1.7559 0.5351 0.3966 1.2628 3.5755	1.7858 0.5600 0.4446 1.0951 3.3348	1.8187 0.5873 0.4779 0.9299 3.0728	1.8539 0.6155 0.4953 0.7756 2.8003
0.65	1.6842 0.4628 0.0000 1.7584 4.1733	1.6874 0.4656 0.0930 1.7347 4.1483	1.6970 0.4739 0.1826 1.6658 4.0740	1.7125 0.4875 0.2658 1.5577 3.9526	1.7334 0.5061 0.3394 1.4196 3.7881	1.7590 0.5288 0.4014 1.2623 3.5857	1.7885 0.5550 0.4493 1.0971 3.3529	1.8210 0.5836 0.4821 0.9339 3.0978	1.8557 0.6131 0.4986 0.7811 2.8302
0.70	1.6883 0.4531 0.0000 1.7478 4.1554	1.6915 0.4561 0.0944 1.7247 4.1317	1.7009 0.4649 0.1852 1.6572 4.0613	1.7162 0.4792 0.2694 1.5513 3.9460	1.7368 0.4987 0.3438 1.4159 3.7889	1.7621 0.5226 0.4060 1.2614 3.5947	1.7911 0.5501 0.4538 1.0988 3.3699	1.8231 0.5800 0.4862 0.9378 3.1217	1.8573 0.6108 0.5017 0.7865 2.8590
0.75	1.6925 0.4435 0.0000 1.7366 4.1363	1.6956 0.4466 0.0957 1.7139 4.1140	1.7049 0.4559 0.1878 1.6480 4.0474	1.7199 0.4710 0.2730 1.5444 3.9381	1.7402 0.4914 0.3481 1.4117 3.7886	1.7651 0.5165 0.4106 1.2602 3.6026	1.7937 0.5453 0.4583 1.1003 3.3859	1.8251 0.5765 0.4901 0.9415 3.1445	1.8587 0.6086 0.5047 0.7918 2.8869
0.80	1.6967 0.4339 0.0000 1.7246 4.1159	1.6997 0.4371 0.0970 1.7025 4.0949	1.7089 0.4468 0.1903 1.6381 4.0322	1.7236 0.4627 0.2765 1.5369 3.9290	1.7436 0.4842 0.3523 1.4071 3.7870	1.7680 0.5105 0.4152 1.2586 3.6094	1.7961 0.5406 0.4627 1.1015 3.4007	1.8270 0.5732 0.4940 0.9451 3.1664	1.8600 0.6066 0.5076 0.7971 2.9139
0.85	1.7009 0.4242 0.0000 1.7119 4.0942	1.7040 0.4276 0.0983 1.6903 4.0745	1.7129 0.4378 0.1928 1.6276 4.0158	1.7274 0.4545 0.2800 1.5288 3.9186	1.7469 0.4769 0.3564 1.4020 3.7842	1.7708 0.5045 0.4196 1.2566 3.6150	1.7984 0.5360 0.4671 1.1024 3.4146	1.8287 0.5699 0.4977 0.9485 3.1874	1.8611 0.6046 0.5104 0.8023 2.9400
0.90	1.7053 0.4145 0.0000 1.6984 4.0711	1.7082 0.4181 0.0996 1.6774 4.0528	1.7170 0.4288 0.1953 1.6163 3.9980	1.7311 0.4462 0.2835 1.5201 3.9069	1.7503 0.4697 0.3606 1.3964 3.7803	1.7737 0.4985 0.4240 1.2542 3.6195	1.8006 0.5314 0.4713 1.1031 3.4274	1.8303 0.5667 0.5014 0.9518 3.2075	1.8621 0.6028 0.5131 0.8073 2.9654
0.95	1.7097 0.4047 0.0000 1.6841 4.0466	1.7125 0.4085 0.1009 1.6638 4.0297	1.7211 0.4197 0.1978 1.6044 3.9788	1.7349 0.4379 0.2869 1.5108 3.8939	1.7536 0.4625 0.3646 1.3902 3.7750	1.7765 0.4926 0.4283 1.2514 3.6229	1.8028 0.5268 0.4755 1.1035 3.4392	1.8319 0.5636 0.5050 0.9548 3.2267	1.8630 0.6011 0.5157 0.8124 2.9900
1.00	1.7142 0.3949 0.0000 1.6690 4.0207	1.7170 0.3988 0.1022 1.6493 4.0051	1.7253 0.4105 0.2002 1.5917 3.9582	1.7388 0.4296 0.2902 1.5008 3.8795	1.7570 0.4553 0.3686 1.3835 3.7685	1.7792 0.4867 0.4326 1.2482 3.6251	1.8050 0.5224 0.4796 1.1036 3.4500	1.8333 0.5606 0.5085 0.9577 3.2450	1.8638 0.5995 0.5183 0.8173 3.0139
F_x	0.4578	0.4583	0.4598	0.4624	0.4660	0.4710	0.4772	0.4848	0.4939

$$M_{\infty} = 5, \beta_{\kappa} = 20^{\circ}, \alpha = 15^{\circ}$$

ξ	θ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.00	1.7951 0.6534 0.4749 0.5584 1.8393	1.8268 0.6649 0.4828 0.4419 1.5562	1.8583 0.6764 0.4760 0.3519 1.3225	1.8893 0.6877 0.4442 0.2888 1.1485	1.9167 0.6976 0.3808 0.2529 1.0444	1.9389 0.7057 0.2696 0.2402 1.0069	1.9531 0.7109 0.1114 0.2391 1.0036	2.0669 0.7523 0.0000 0.2396 1.4431	1.9557 0.7118 0.0000 0.2396 1.0050
0.05	1.8376 0.6627 0.4658 0.5654 2.0138	1.8759 0.6776 0.4676 0.4486 1.7399	1.9146 0.6924 0.4535 0.3578 1.5130	1.9533 0.7069 0.4173 0.2936 1.3497	1.9894 0.7208 0.3503 0.2562 1.2641	2.0224 0.7346 0.2428 0.2419 1.2688	2.0539 0.7456 0.1255 0.2395 1.3710	2.0681 0.7489 0.0000 0.2395 1.4429	
0.10	1.8507 0.6620 0.4678 0.5724 2.0898	1.8901 0.6783 0.4674 0.4552 1.8195	1.9299 0.6941 0.4511 0.3637 1.5946	1.9691 0.7089 0.4139 0.2983 1.4307	2.0053 0.7232 0.3477 0.2594 1.3444	2.0369 0.7367 0.2488 0.2435 1.3495	2.0602 0.7451 0.1328 0.2399 1.4098	2.0689 0.7469 0.0000 0.2394 1.4424	
0.15	1.8595 0.6603 0.4710 0.5792 2.1518	1.8994 0.6776 0.4689 0.4617 1.8838	1.9395 0.6941 0.4511 0.3695 1.6589	1.9784 0.7091 0.4132 0.3030 1.4916	2.0140 0.7230 0.3484 0.2626 1.3998	2.0434 0.7357 0.2526 0.2451 1.3919	2.0627 0.7436 0.1351 0.2403 1.4255	2.0694 0.7455 0.0000 0.2393 1.4419	
0.20	1.8662 0.6582 0.4744 0.5859 2.2061	1.9062 0.6765 0.4709 0.4682 1.9396	1.9461 0.6935 0.4517 0.3753 1.7134	1.9846 0.7084 0.4131 0.3077 1.5414	2.0194 0.7218 0.3489 0.2657 1.4411	2.0470 0.7340 0.2542 0.2466 1.4186	2.0641 0.7421 0.1356 0.2406 1.4338	2.0699 0.7443 0.0000 0.2392 1.4414	
0.25	1.8715 0.6560 0.4778 0.5926 2.2553	1.9113 0.6752 0.4729 0.4747 1.9897	1.9509 0.6926 0.4524 0.3811 1.7616	1.9890 0.7075 0.4128 0.3123 1.5839	2.0231 0.7203 0.3487 0.2688 1.4740	2.0494 0.7321 0.2543 0.2481 1.4376	2.0651 0.7405 0.1351 0.2409 1.4389	2.0703 0.7431 0.0000 0.2390 1.4406	
0.30	1.8757 0.6538 0.4811 0.5992 2.3007	1.9153 0.6739 0.4748 0.4811 2.0357	1.9545 0.6918 0.4528 0.3869 1.8051	1.9922 0.7065 0.4122 0.3169 1.6213	2.0257 0.7188 0.3478 0.2718 1.5014	2.0511 0.7303 0.2535 0.2494 1.4520	2.0659 0.7390 0.1342 0.2411 1.4423	2.0708 0.7420 0.0000 0.2388 1.4398	
0.35	1.8793 0.6517 0.4842 0.6058 2.3432	1.9185 0.6726 0.4765 0.4875 2.0784	1.9573 0.6910 0.4530 0.3927 1.8451	1.9946 0.7056 0.4112 0.3216 1.6549	2.0276 0.7174 0.3463 0.2748 1.5250	2.0524 0.7285 0.2520 0.2507 1.4636	2.0666 0.7375 0.1330 0.2413 1.4445	2.0714 0.7407 0.0000 0.2386 1.4387	
0.40	1.8823 0.6497 0.4870 0.6123 2.3833	1.9211 0.6715 0.4779 0.4939 2.1186	1.9595 0.6903 0.4529 0.3985 1.8823	1.9964 0.7049 0.4099 0.3262 1.6858	2.0290 0.7162 0.3443 0.2778 1.5460	2.0535 0.7269 0.2501 0.2519 1.4732	2.0674 0.7360 0.1317 0.2413 1.4458	2.0720 0.7393 0.0000 0.2382 1.4373	
0.45	1.8848 0.6479 0.4897 0.6187 2.4215	1.9232 0.6705 0.4791 0.5003 2.1567	1.9612 0.6898 0.4526 0.4043 1.9174	1.9977 0.7043 0.4082 0.3308 1.7144	2.0301 0.7151 0.3420 0.2807 1.5650	2.0544 0.7254 0.2479 0.2531 1.4814	2.0681 0.7344 0.1303 0.2413 1.4466	2.0726 0.7379 0.0000 0.2378 1.4356	
0.50	1.8869 0.6462 0.4922 0.6251 2.4579	1.9249 0.6696 0.4801 0.5067 2.1929	1.9625 0.6894 0.4520 0.4101 1.9506	1.9987 0.7040 0.4063 0.3354 1.7414	2.0310 0.7143 0.3393 0.2836 1.5825	2.0552 0.7239 0.2455 0.2541 1.4886	2.0689 0.7328 0.1288 0.2412 1.4467	2.0734 0.7363 0.0000 0.2374 1.4335	

$$M_{\infty} = 5, \beta_k = 20^\circ, \alpha = 15^\circ$$

ξ	θ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.55	1.8887 0.6446 0.4946 0.6314 2.4928	1.9262 0.6689 0.4810 0.5131 2.2276	1.9634 0.6892 0.4512 0.4159 1.9823	1.9993 0.7038 0.4041 0.3400 1.7670	2.0316 0.7136 0.3365 0.2864 1.5990	2.0559 0.7226 0.2429 0.2551 1.4949	2.0697 0.7311 0.1273 0.2410 1.4464	2.0742 0.7345 0.0000 0.2368 1.4311	
0.60	1.8903 0.6432 0.4967 0.6377 2.5264	1.9273 0.6683 0.4816 0.5194 2.2611	1.9640 0.6892 0.4503 0.4217 2.0128	1.9997 0.7039 0.4017 0.3447 1.7916	2.0320 0.7132 0.3334 0.2893 1.6147	2.0566 0.7213 0.2403 0.2561 1.5006	2.0705 0.7293 0.1257 0.2407 1.4455	2.0751 0.7326 0.0000 0.2361 1.4281	
0.65	1.8915 0.6419 0.4987 0.6440 2.5589	1.9281 0.6680 0.4821 0.5258 2.2934	1.9645 0.6894 0.4491 0.4276 2.0423	1.9999 0.7041 0.3991 0.3494 1.8153	2.0323 0.7129 0.3302 0.2922 1.6298	2.0572 0.7201 0.2375 0.2570 1.5059	2.0714 0.7274 0.1242 0.2403 1.4440	2.0761 0.7306 0.0000 0.2353 1.4246	
0.70	1.8926 0.6407 0.5006 0.6503 2.5903	1.9287 0.6677 0.4824 0.5321 2.3247	1.9647 0.6897 0.4478 0.4334 2.0709	2.0000 0.7046 0.3964 0.3541 1.8384	2.0324 0.7129 0.3268 0.2951 1.6444	2.0578 0.7189 0.2346 0.2579 1.5107	2.0724 0.7254 0.1226 0.2398 1.4420	2.0772 0.7283 0.0000 0.2343 1.4205	
0.75	1.8935 0.6397 0.5023 0.6565 2.6209	1.9291 0.6676 0.4826 0.5385 2.3552	1.9647 0.6902 0.4464 0.4393 2.0987	1.9998 0.7052 0.3937 0.3588 1.8610	2.0324 0.7130 0.3234 0.2981 1.6589	2.0584 0.7178 0.2316 0.2587 1.5152	2.0735 0.7232 0.1210 0.2391 1.4393	2.0785 0.7258 0.0000 0.2332 1.4155	
0.80	1.8942 0.6388 0.5039 0.6627 2.6506	1.9294 0.6677 0.4827 0.5449 2.3849	1.9646 0.6909 0.4449 0.4453 2.1260	1.9995 0.7061 0.3908 0.3637 1.8832	2.0323 0.7134 0.3198 0.3012 1.6732	2.0589 0.7168 0.2286 0.2595 1.5195	2.0747 0.7209 0.1193 0.2383 1.4359	2.0799 0.7230 0.0000 0.2318 1.4097	
0.85	1.8948 0.6381 0.5054 0.6688 2.6795	1.9294 0.6679 0.4827 0.5513 2.4140	1.9643 0.6917 0.4434 0.4512 2.1528	1.9990 0.7071 0.3878 0.3686 1.9052	2.0320 0.7139 0.3162 0.3043 1.6876	2.0594 0.7159 0.2254 0.2604 1.5236	2.0761 0.7183 0.1176 0.2373 1.4317	2.0815 0.6198 0.0000 0.2302 1.4026	
0.90	1.8952 0.6375 0.5068 0.6750 2.7078	1.9294 0.6682 0.4826 0.5578 2.4426	1.9638 0.6926 0.4417 0.4573 2.1792	1.9984 0.7083 0.3848 0.3735 1.9271	2.0316 0.7146 0.3125 0.3075 1.7021	2.0598 0.7150 0.2222 0.2612 1.5277	2.0776 0.7155 0.1158 0.2369 1.4264	2.0835 0.7162 0.0000 0.2282 1.3940	
0.95	1.8956 0.6369 0.5081 0.6812 2.7355	1.9292 0.6686 0.4824 0.5642 2.4706	1.9633 0.6938 0.4400 0.4634 2.2053	1.9977 0.7097 0.3818 0.3786 1.9489	2.0311 0.7156 0.3088 0.3109 1.7169	2.0602 0.7143 0.2189 0.2621 1.5319	2.0793 0.7123 0.1139 0.2345 1.4199	2.0858 0.7119 0.0000 0.2258 1.3832	
1.00	1.8958 0.6365 0.5093 0.6873 2.7626	1.9289 0.6692 0.4821 0.5707 2.4983	1.9626 0.6950 0.4382 0.4695 2.2312	1.9969 0.7112 0.3788 0.3838 1.9707	2.0304 0.7167 0.3050 0.3144 1.7321	2.0605 0.7137 0.2154 0.2630 1.5364	2.0813 0.7087 0.1119 0.2326 1.4118	2.0887 0.7067 0.0000 0.2226 1.3692	
F_x	0.5044	0.5159	0.5282	0.5398	0.5496	0.5549	0.5569	0.5565	

$$M_{\infty} = 5, \beta_{\kappa} = 25^{\circ}, \alpha = 5^{\circ}$$

σ	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.00	1.6720 0.7797 0.0000 1.4729 3.9707	1.6728 0.7801 0.0231 1.4650 3.9556	1.6754 0.7812 0.0456 1.4419 3.9109	1.6794 0.7831 0.0665 1.4049 3.8390	1.6850 0.7857 0.0853 1.3563 3.7436	1.6919 0.7889 0.1013 1.2986 3.6292	1.6999 0.7927 0.1138 1.2351 3.5015	1.7087 0.7968 0.1223 1.1689 3.3663	1.7180 0.8011 0.1263 1.1029 3.2296
0.05	1.6762 0.7708 0.0000 1.4725 3.9700	1.6776 0.7715 0.0254 1.4647 3.9589	1.6819 0.7735 0.0499 1.4416 3.9262	1.6889 0.7769 0.0728 1.4048 3.8737	1.6985 0.7815 0.0932 1.3562 3.8042	1.7103 0.7871 0.1105 1.2987 3.7215	1.7241 0.7937 0.1239 1.2353 3.6300	1.7393 0.8009 0.1328 1.1691 3.5345	1.7556 0.8087 0.1369 1.1033 3.4398
0.10	1.6803 0.7620 0.0000 1.4714 3.9680	1.6818 0.7627 0.0268 1.4636 3.9574	1.6862 0.7649 0.0527 1.4407 3.9261	1.6934 0.7685 0.0769 1.4040 3.8757	1.7032 0.7733 0.0984 1.3556 3.8090	1.7153 0.7792 0.1167 1.2982 3.7293	1.7293 0.7860 0.1309 1.2350 3.6407	1.7447 0.7936 0.1404 1.1689 3.5477	1.7611 0.8016 0.1449 1.1031 3.4549
0.15	1.6845 0.7534 0.0000 1.4697 3.9646	1.6860 0.7541 0.0279 1.4619 3.9544	1.6905 0.7564 0.0549 1.4391 3.9241	1.6978 0.7601 0.0800 1.4025 3.8754	1.7076 0.7651 0.1025 1.3543 3.8106	1.7198 0.7713 0.1215 1.2972 3.7330	1.7339 0.7783 0.1362 1.2341 3.6465	1.7494 0.7861 0.1462 1.1682 3.5551	1.7658 0.7943 0.1509 1.1025 3.4634
0.20	1.6886 0.7449 0.0000 1.4673 3.9600	1.6901 0.7457 0.0288 1.4596 3.9501	1.6946 0.7480 0.0567 1.4369 3.9207	1.7020 0.7519 0.0827 1.4005 3.8732	1.7119 0.7570 0.1059 1.3525 3.8101	1.7241 0.7634 0.1255 1.2956 3.7342	1.7382 0.7707 0.1407 1.2328 3.6493	1.7537 0.7787 0.1510 1.1670 3.5593	1.7701 0.7870 0.1558 1.1014 3.4683
0.25	1.6927 0.7365 0.0000 1.4643 3.9543	1.6942 0.7374 0.0296 1.4566 3.9445	1.6988 0.7398 0.0583 1.4341 3.9159	1.7061 0.7437 0.0850 1.3979 3.8696	1.7161 0.7491 0.1088 1.3502 3.8078	1.7283 0.7556 0.1289 1.2935 3.7335	1.7424 0.7631 0.1445 1.2309 3.6500	1.7579 0.7713 0.1550 1.1654 3.5611	1.7742 0.7799 0.1599 1.0999 3.4708
0.30	1.6968 0.7283 0.0000 1.4607 3.9473	1.6983 0.7291 0.0304 1.4531 3.9378	1.7029 0.7317 0.0597 1.4306 3.9099	1.7102 0.7357 0.0871 1.3947 3.8646	1.7202 0.7413 0.1114 1.3472 3.8042	1.7324 0.7480 0.1320 1.2909 3.7312	1.7465 0.7557 0.1479 1.2286 3.6490	1.7619 0.7641 0.1586 1.1633 3.5611	1.7782 0.7728 0.1635 1.0980 3.4714
0.35	1.7009 0.7202 0.0000 1.4565 3.9392	1.7024 0.7210 0.0310 1.4490 3.9300	1.7069 0.7236 0.0610 1.4267 3.9026	1.7143 0.7278 0.0889 1.3910 3.8584	1.7242 0.7335 0.1138 1.3438 3.7992	1.7364 0.7404 0.1347 1.2878 3.7275	1.7505 0.7483 0.1509 1.2258 3.6465	1.7658 0.7569 0.1617 1.1608 3.5595	1.7820 0.7658 0.1667 1.0957 3.4704
0.40	1.7050 0.7121 0.0000 1.4518 3.9301	1.7065 0.7130 0.0316 1.4443 3.9210	1.7110 0.7157 0.0622 1.4222 3.8943	1.7183 0.7201 0.0906 1.3867 3.8510	1.7282 0.7259 0.1159 1.3399 3.7929	1.7404 0.7330 0.1372 1.2842 3.7225	1.7544 0.7411 0.1536 1.2225 3.6426	1.7697 0.7499 0.1646 1.1578 3.5566	1.7858 0.7590 0.1695 1.0930 3.4679
0.45	1.7091 0.7042 0.0000 1.4465 3.9198	1.7106 0.7051 0.0322 1.4390 3.9110	1.7151 0.7079 0.0633 1.4171 3.8849	1.7224 0.7123 0.0922 1.3819 3.8425	1.7322 0.7183 0.1179 1.3354 3.7855	1.7443 0.7256 0.1395 1.2801 3.7162	1.7582 0.7339 0.1561 1.2188 3.6375	1.7735 0.7429 0.1671 1.1544 3.5523	1.7895 0.7522 0.1721 1.0899 3.4642
0.50	1.7132 0.6964 0.0000 1.4407 3.9085	1.7147 0.6973 0.0327 1.4333 3.8999	1.7191 0.7001 0.0643 1.4115 3.8744	1.7264 0.7047 0.0937 1.3766 3.8329	1.7362 0.7109 0.1197 1.3305 3.7770	1.7482 0.7184 0.1416 1.2756 3.7089	1.7621 0.7269 0.1584 1.2147 3.6312	1.7772 0.7361 0.1695 1.1507 3.5469	1.7931 0.7456 0.1744 1.0864 3.4593

$$M_{\infty} = 5, \beta_K = 25^{\circ}, \alpha = 5^{\circ}$$

ξ	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.55	1.7173	1.7187	1.7232	1.7304	1.7401	1.7521	1.7659	1.7809	1.7967
	0.6886	0.6896	0.6925	0.6972	0.7035	0.7112	0.7199	0.7293	0.7390
	0.0000	0.0332	0.0653	0.0950	0.1214	0.1435	0.1605	0.1717	0.1765
	1.4343	1.4270	1.4054	1.3709	1.3251	1.2707	1.2102	1.1465	1.0826
0.60	3.8962	3.8878	3.8628	3.8222	3.7674	3.7004	3.6237	3.5403	3.4532
	1.7214	1.7228	1.7272	1.7344	1.7441	1.7560	1.7696	1.7846	1.8003
	0.6809	0.6819	0.6849	0.6897	0.6962	0.7041	0.7129	0.7226	0.7325
	0.0000	0.0337	0.0662	0.0963	0.1230	0.1454	0.1625	0.1737	0.1785
0.65	1.4274	1.4202	1.3939	1.3646	1.3193	1.2653	1.2052	1.1420	1.0784
	3.8828	3.8746	3.8502	3.8104	3.7567	3.6908	3.6152	3.5326	3.4461
	1.7255	1.7269	1.7313	1.7384	1.7480	1.7598	1.7734	1.7883	1.8039
	0.6732	0.6742	0.6773	0.6823	0.6889	0.6970	0.7061	0.7159	0.7260
0.70	0.0000	0.0341	0.0670	0.0975	0.1245	0.1471	0.1643	0.1755	0.1803
	1.4200	1.4129	1.3918	1.3579	1.3130	1.2594	1.1999	1.1371	1.0738
	3.8685	3.8604	3.8366	3.7977	3.7450	3.6802	3.6057	3.5239	3.4380
	1.7296	1.7311	1.7354	1.7425	1.7520	1.7637	1.7772	1.7919	1.8075
0.75	0.6656	0.6666	0.6698	0.6749	0.6817	0.6900	0.6993	0.7093	0.7196
	0.0000	0.0345	0.0678	0.0987	0.1259	0.1487	0.1660	0.1773	0.1819
	1.4121	1.4050	1.3842	1.3506	1.3062	1.2532	1.1941	1.1317	1.0689
	3.8531	3.8452	3.8219	3.7839	3.7322	3.6686	3.5951	3.5142	3.4288
0.80	1.7338	1.7352	1.7395	1.7465	1.7560	1.7676	1.7809	1.7956	1.8110
	0.6580	0.6590	0.6623	0.6675	0.6745	0.6830	0.6925	0.7028	0.7133
	0.0000	0.0349	0.0686	0.0997	0.1273	0.1502	0.1676	0.1789	0.1835
	1.4037	1.3967	1.3761	1.3429	1.2990	1.2465	1.1879	1.1261	1.0636
0.85	3.8367	3.8290	3.8062	3.7690	3.7184	3.6559	3.5835	3.5034	3.4186
	1.7380	1.7394	1.7437	1.7506	1.7600	1.7715	1.7847	1.7993	1.8146
	0.6504	0.6515	0.6548	0.6602	0.6674	0.6760	0.6858	0.6963	0.7070
	0.0000	0.0353	0.0693	0.1008	0.1285	0.1516	0.1692	0.1804	0.1849
0.90	1.3948	1.3879	1.3675	1.3347	1.2913	1.2393	1.1813	1.1200	1.0579
	3.8192	3.8117	3.7895	3.7531	3.7036	3.6422	3.5708	3.4917	3.4074
	1.7422	1.7437	1.7479	1.7547	1.7640	1.7754	1.7885	1.8030	1.8182
	0.6428	0.6439	0.6473	0.6528	0.6602	0.6691	0.6791	0.6898	0.7007
0.95	0.0000	0.0356	0.0700	0.1017	0.1298	0.1530	0.1706	0.1818	0.1863
	1.3853	1.3785	1.3584	1.3260	1.2831	1.2317	1.1743	1.1135	1.0519
	3.8007	3.7934	3.7717	3.7362	3.6877	3.6274	3.5571	3.4789	3.3953
	1.7465	1.7479	1.7521	1.7589	1.7681	1.7794	1.7924	1.8067	1.8218
1.00	0.6352	0.6364	0.6399	0.6455	0.6530	0.6621	0.6723	0.6832	0.6944
	0.0000	0.0360	0.0706	0.1027	0.1309	0.1543	0.1719	0.1832	0.1875
	1.3753	1.3686	1.3487	1.3168	1.2744	1.2237	1.1669	1.1066	1.0455
	3.7810	3.7739	3.7528	3.7182	3.6707	3.6116	3.5424	3.4651	3.3821
F_x	1.7509	1.7523	1.7564	1.7631	1.7722	1.7834	1.7962	1.8104	1.8254
	0.6276	0.6288	0.6324	0.6381	0.6459	0.6552	0.6656	0.6767	0.6881
	0.0000	0.0363	0.0713	0.1036	0.1320	0.1555	0.1732	0.1845	0.1887
	1.3647	1.3581	1.3386	1.3071	1.2653	1.2151	1.1590	1.0993	1.0387
F_x	3.7603	3.7534	3.7328	3.6990	3.6527	3.5947	3.5266	3.4502	3.3678
	1.7553	1.7567	1.7607	1.7674	1.7763	1.7874	1.8002	1.8142	1.8291
	0.6199	0.6211	0.6248	0.6307	0.6387	0.6482	0.6588	0.6702	0.6817
	0.0000	0.0366	0.0719	0.1044	0.1330	0.1567	0.1744	0.1856	0.1898
F_x	1.3536	1.3471	1.3278	1.2968	1.2556	1.2061	1.1506	1.0916	1.0315
	3.7383	3.7316	3.7117	3.6787	3.6334	3.5766	3.5096	3.4342	3.3525
	0.5796	0.5797	0.5800	0.5805	0.5811	0.5819	0.5827	0.5836	0.5845

$$M_{\infty} = 5, \beta_k = 25^\circ, \alpha = 5^\circ$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.00	1.7276 0.8056 0.1253 1.0401 3.0970	1.7369 0.8099 0.1194 0.9825 2.9736	1.7457 0.8140 0.1084 0.9321 2.8637	1.7534 0.8176 0.0929 0.8899 2.7705	1.7598 0.8206 0.0734 0.8567 2.6964	1.7647 0.8229 0.0507 0.8330 2.6428	1.7676 0.8243 0.0259 0.8187 2.6104	1.8446 0.8602 0.0000 0.8140 3.0675	1.7686 0.8247 0.0000 0.8140 2.5996
0.05	1.7724 0.8167 0.1358 1.0404 3.3508	1.7890 0.8246 0.1294 0.9828 3.2712	1.8048 0.8321 0.1178 0.9322 3.2041	1.8191 0.8389 0.1012 0.8900 3.1510	1.8312 0.8446 0.0802 0.8567 3.1120	1.8404 0.8489 0.0556 0.8329 3.0861	1.8462 0.8517 0.0285 0.8185 3.0715	1.8482 0.8526 0.0000 0.8138 3.0668	
0.10	1.7778 0.8097 0.1439 1.0402 3.3664	1.7943 0.8177 0.1374 0.9826 3.2862	1.8099 0.8252 0.1253 0.9320 3.2170	1.8238 0.8319 0.1079 0.8896 3.1607	1.8355 0.8376 0.0857 0.8562 3.1178	1.8443 0.8418 0.0595 0.8323 3.0881	1.8498 0.8444 0.0305 0.8179 3.0707	1.8516 0.8453 0.0000 0.8131 3.0650	
0.15	1.7825 0.8026 0.1500 1.0397 3.3752	1.7988 0.8107 0.1432 0.9820 3.2943	1.8142 0.8183 0.1306 0.9313 3.2236	1.8279 0.8250 0.1125 0.8888 3.1651	1.8393 0.8306 0.0894 0.8553 3.1196	1.8479 0.8348 0.0622 0.8313 3.0875	1.8532 0.8374 0.0319 0.8168 3.0684	1.8550 0.8383 0.0000 0.8120 3.0621	
0.20	1.7867 0.7955 0.1548 1.0387 3.3803	1.8030 0.8037 0.1478 0.9810 3.2989	1.8182 0.8114 0.1348 0.9303 3.2269	1.8317 0.8181 0.1162 0.8877 3.1666	1.8429 0.8238 0.0923 0.8541 3.1192	1.8513 0.8280 0.0641 0.8299 3.0853	1.8565 0.8306 0.0329 0.8154 3.0649	1.8583 0.8315 0.0000 0.8105 3.0581	
0.25	1.7907 0.7885 0.1589 1.0373 3.3829	1.8069 0.7968 0.1516 0.9796 3.3010	1.8220 0.8046 0.1383 0.9288 3.2280	1.8353 0.8114 0.1191 0.8861 3.1662	1.8464 0.8171 0.0946 0.8524 3.1172	1.8547 0.8214 0.0657 0.8282 3.0817	1.8598 0.8240 0.0337 0.8136 3.0604	1.8616 0.8249 0.0000 0.8087 3.0532	
0.30	1.7946 0.7816 0.1623 1.0355 3.3836	1.8106 0.7901 0.1549 0.9779 3.3012	1.8256 0.7979 0.1412 0.9270 3.2273	1.8389 0.8049 0.1215 0.8843 3.1642	1.8498 0.8106 0.0965 0.8505 3.1138	1.8580 0.8149 0.0670 0.8261 3.0771	1.8631 0.8175 0.0344 0.8115 3.0549	1.8648 0.8184 0.0000 0.8066 3.0474	
0.35	1.7984 0.7748 0.1654 1.0333 3.3827	1.8143 0.7834 0.1577 0.9757 3.2999	1.8292 0.7914 0.1437 0.9249 3.2251	1.8423 0.7984 0.1236 0.8821 3.1609	1.8532 0.8042 0.0981 0.8482 3.1092	1.8613 0.8085 0.0681 0.8237 3.0715	1.8663 0.8112 0.0349 0.8090 3.0485	1.8680 0.8121 0.0000 0.8041 3.0407	
0.40	1.8021 0.7681 0.1681 1.0307 3.3803	1.8179 0.7769 0.1602 0.9732 3.2972	1.8326 0.7850 0.1459 0.9224 3.2216	1.8457 0.7921 0.1254 0.8795 3.1564	1.8565 0.7979 0.0995 0.8456 3.1036	1.8645 0.8023 0.0690 0.8210 3.0649	1.8695 0.8050 0.0354 0.8063 3.0412	1.8712 0.8059 0.0000 0.8013 3.0332	
0.45	1.8057 0.7615 0.1705 1.0278 3.3767	1.8214 0.7704 0.1624 0.9704 3.2932	1.8361 0.7786 0.1478 0.9196 3.2170	1.8490 0.7858 0.1270 0.8765 3.1508	1.8597 0.7917 0.1007 0.8426 3.0970	1.8677 0.7961 0.0698 0.8180 3.0574	1.8727 0.7989 0.0358 0.8032 3.0331	1.8743 0.7998 0.0000 0.7982 3.0249	
0.50	1.8092 0.7550 0.1727 1.0245 3.3719	1.8249 0.7641 0.1644 0.9672 3.2881	1.8394 0.7724 0.1495 0.9164 3.2113	1.8523 0.7797 0.1284 0.8735 3.1442	1.8630 0.7857 0.1017 0.8394 3.0895	1.8709 0.7901 0.0705 0.8147 3.0490	1.8758 0.7929 0.0361 0.7998 3.0241	1.8775 0.7938 0.0000 0.7948 3.0157	

$$M_{\infty} = 5, \beta_{\kappa} = 25^{\circ}, \alpha = 5^{\circ}$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.55	1.8127 0.7486 0.1747 1.0209 3.3660	1.8283 0.7578 0.1662 0.9637 3.2820	1.8428 0.7663 0.1510 0.9130 3.2045	1.8556 0.7736 0.1296 0.8700 3.1366	1.8662 0.7796 0.1026 0.8359 3.0810	1.8741 0.7841 0.0711 0.8111 3.0398	1.8790 0.7869 0.0364 0.7962 3.0144	1.8806 0.7878 0.0000 0.7912 3.0058	
0.60	1.8162 0.7423 0.1765 1.0169 3.3590	1.8317 0.7516 0.1678 0.9599 3.2748	1.8461 0.7602 0.1524 0.9092 3.1968	1.8589 0.7676 0.1307 0.8662 3.1281	1.8694 0.7737 0.1035 0.8320 3.0717	1.8773 0.7782 0.0717 0.8072 3.0297	1.8821 0.7810 0.0367 0.7923 3.0038	1.8838 0.7819 0.0000 0.7872 2.9951	
0.65	1.8197 0.7360 0.1782 1.0126 3.3510	1.8351 0.7455 0.1693 0.9557 3.2666	1.8494 0.7542 0.1536 0.9051 3.1881	1.8621 0.7617 0.1317 0.8621 3.1187	1.8726 0.7678 0.1042 0.8279 3.0615	1.8805 0.7724 0.0721 0.8031 3.0188	1.8853 0.7752 0.0369 0.7880 2.9925	1.8870 0.7761 0.0000 0.7830 2.9835	
0.70	1.8232 0.7298 0.1797 1.0079 3.3421	1.8385 0.7394 0.1706 0.9513 3.2575	1.8527 0.7482 0.1547 0.9007 3.1785	1.8654 0.7558 0.1325 0.8578 3.1084	1.8758 0.7620 0.1048 0.8235 3.0505	1.8837 0.7666 0.0725 0.7986 3.0071	1.8885 0.7694 0.0371 0.7835 2.9803	1.8901 0.7703 0.0000 0.7785 2.9712	
0.75	1.8266 0.7236 0.1812 1.0030 3.3321	1.8419 0.7334 0.1718 0.9465 3.2474	1.8561 0.7423 0.1557 0.8960 3.1679	1.8686 0.7499 0.1333 0.8531 3.0973	1.8791 0.7562 0.1053 0.8188 3.0386	1.8869 0.7608 0.0729 0.7938 2.9946	1.8917 0.7636 0.0373 0.7787 2.9673	1.8933 0.7645 0.0000 0.7736 2.9580	
0.80	1.8301 0.7175 0.1825 0.9976 3.3212	1.8452 0.7274 0.1729 0.9414 3.2363	1.8594 0.7363 0.1566 0.8910 3.1565	1.8719 0.7441 0.1340 0.8481 3.0852	1.8823 0.7503 0.1058 0.8138 3.0258	1.8901 0.7550 0.0732 0.7888 2.9811	1.8949 0.7578 0.0374 0.7736 2.9535	1.8966 0.7587 0.0000 0.7685 2.9440	
0.85	1.8336 0.7113 0.1837 0.9919 3.3093	1.8487 0.7214 0.1740 0.9359 3.2244	1.8627 0.7305 0.1575 0.8857 3.1441	1.8752 0.7382 0.1346 0.8428 3.0722	1.8856 0.7445 0.1063 0.8084 3.0121	1.8934 0.7492 0.0735 0.7834 2.9668	1.8982 0.7520 0.0375 0.7682 2.9387	1.8999 0.7529 0.0000 0.7631 2.9291	
0.90	1.8371 0.7052 0.1848 0.9859 3.2964	1.8521 0.7154 0.1749 0.9301 3.2114	1.8661 0.7246 0.1582 0.8800 3.1307	1.8786 0.7324 0.1352 0.8372 3.0582	1.8890 0.7387 0.1067 0.8028 2.9975	1.8968 0.7433 0.0737 0.7777 2.9516	1.9016 0.7462 0.0377 0.7624 2.9230	1.9032 0.7471 0.0000 0.7573 2.9133	
0.95	1.8406 0.6991 0.1858 0.9795 3.2825	1.8556 0.7094 0.1758 0.9240 3.1974	1.8695 0.7186 0.1589 0.8740 3.1164	1.8820 0.7265 0.1357 0.8312 3.0433	1.8924 0.7329 0.1070 0.7968 2.9819	1.9001 0.7375 0.0739 0.7716 2.9353	1.9050 0.7403 0.0378 0.7563 2.9064	1.9066 0.7412 0.0000 0.7512 2.8965	
1.00	1.8442 0.6929 0.1868 0.9727 3.2675	1.8591 0.7034 0.1766 0.9174 3.1824	1.8730 0.7127 0.1595 0.8676 3.1010	1.8854 0.7206 0.1361 0.8249 3.0273	1.8958 0.7269 0.1073 0.7904 2.9652	1.9036 0.7315 0.0741 0.7652 2.9181	1.9085 0.7343 0.0378 0.7499 2.8886	1.9101 0.7352 0.0000 0.7447 2.8786	
F_x	0.5853	0.5860	0.5866	0.5870	0.5873	0.5874	0.5875	0.5875	

$$M_{\infty} = 5, \beta_{\kappa} = 25^{\circ}, \alpha = 10^{\circ}$$

ξ	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.00	1.5630 0.7288 0.0000 1.8596 4.3022	1.5647 0.7296 0.0458 1.8412 4.2717	1.5698 0.7320 0.0904 1.7874 4.1821	1.5782 0.7359 0.1328 1.7022 4.0387	1.5896 0.7412 0.1716 1.5918 3.8498	1.6039 0.7479 0.2057 1.4539 3.6263	1.6206 0.7557 0.2339 1.3267 3.3801	1.6396 0.7645 0.2551 1.1882 3.1241	1.6600 0.7741 0.2678 1.0554 2.8705
0.05	1.5676 0.7191 0.0000 1.8592 4.3015	1.5702 0.7204 0.0490 1.8409 4.2766	1.5778 0.7241 0.0967 1.7873 4.2035	1.5904 0.7302 0.1415 1.7035 4.0862	1.6076 0.7385 0.1821 1.5927 3.9314	1.6291 0.7488 0.2172 1.4653 3.7478	1.6541 0.7609 0.2455 1.3285 3.5455	1.6823 0.7744 0.2659 1.1903 3.3356	1.7128 0.7891 0.2773 1.0576 3.1292
0.10	1.5721 0.7095 0.0000 1.8579 4.2993	1.5748 0.7109 0.0513 1.8397 4.2758	1.5829 0.7149 0.1011 1.7865 4.2066	1.5961 0.7215 0.1479 1.7022 4.0956	1.6141 0.7305 0.1902 1.5929 3.9486	1.6364 0.7416 0.2267 1.4662 3.7738	1.6624 0.7546 0.2560 1.3299 3.5804	1.6915 0.7690 0.2771 1.1921 3.3791	1.7228 0.7845 0.2888 1.0596 3.1800
0.15	1.5767 0.7000 0.0000 1.8558 4.2958	1.5795 0.7015 0.0532 1.8377 4.2734	1.5877 0.7058 0.1049 1.7849 4.2072	1.6013 0.7128 0.1533 1.7012 4.1009	1.6196 0.7223 0.1970 1.5926 3.9599	1.6424 0.7341 0.2346 1.4665 3.7917	1.6689 0.7478 0.2648 1.3309 3.6050	1.6985 0.7628 0.2864 1.1936 3.4097	1.7301 0.7789 0.2984 1.0614 3.2153
0.20	1.5812 0.6907 0.0000 1.8529 4.2910	1.5841 0.6922 0.0549 1.8349 4.2695	1.5925 0.6967 0.1081 1.7825 4.2059	1.6062 0.7041 0.1580 1.6995 4.1037	1.6248 0.7142 0.2030 1.5916 3.9678	1.6479 0.7265 0.2415 1.4664 3.8053	1.6746 0.7407 0.2724 1.3315 3.6241	1.7044 0.7564 0.2944 1.1947 3.4336	1.7361 0.7730 0.3066 1.0628 3.2430
0.25	1.5858 0.6815 0.0000 1.8492 4.2849	1.5886 0.6831 0.0564 1.8314 4.2642	1.5971 0.6878 0.1111 1.7794 4.2030	1.6109 0.6956 0.1623 1.6971 4.1045	1.6297 0.7060 0.2083 1.5901 3.9732	1.6529 0.7189 0.2477 1.4657 3.8157	1.6798 0.7337 0.2792 1.3316 3.6395	1.7095 0.7499 0.3015 1.1954 3.4532	1.7414 0.7670 0.3138 1.0639 3.2657
0.30	1.5903 0.6723 0.0000 1.8447 4.2775	1.5932 0.6740 0.0578 1.8271 4.2576	1.6017 0.6790 0.1139 1.7757 4.1987	1.6156 0.6871 0.1662 1.6940 4.1035	1.6345 0.6980 0.2133 1.5879 3.9766	1.6577 0.7114 0.2534 1.4645 3.8237	1.6846 0.7267 0.2854 1.3312 3.6521	1.7145 0.7435 0.3080 1.1958 3.4697	1.7462 0.7610 0.3203 1.0647 3.2849
0.35	1.5949 0.6633 0.0000 1.8395 4.2689	1.5977 0.6651 0.0592 1.8221 4.2497	1.6063 0.6702 0.1164 1.7712 4.1929	1.6202 0.6787 0.1699 1.6904 4.1011	1.6391 0.6900 0.2178 1.5852 3.9782	1.6623 0.7039 0.2587 1.4628 3.8298	1.6892 0.7198 0.2911 1.3305 3.6624	1.7190 0.7371 0.3139 1.1958 3.4836	1.7506 0.7550 0.3261 1.0653 3.3013
0.40	1.5994 0.6544 0.0000 1.8336 4.2592	1.6023 0.6562 0.0604 1.8164 4.2407	1.6108 0.6616 0.1188 1.7661 4.1859	1.6247 0.6703 0.1733 1.6861 4.0972	1.6435 0.6821 0.2221 1.5820 3.9783	1.6668 0.6965 0.2636 1.4606 3.8341	1.6936 0.7130 0.2964 1.3293 3.6708	1.7232 0.7308 0.3193 1.1955 3.4954	1.7547 0.7492 0.3314 1.0655 3.3154
0.45	1.6040 0.6455 0.0000 1.8271 4.2482	1.6068 0.6474 0.0616 1.8101 4.2304	1.6153 0.6530 0.1211 1.7603 4.1776	1.6292 0.6621 0.1765 1.6812 4.0920	1.6480 0.6743 0.2261 1.5782 3.9769	1.6711 0.6892 0.2682 1.4580 3.8368	1.6978 0.7062 0.3013 1.3278 3.6775	1.7273 0.7245 0.3243 1.1948 3.5054	1.7586 0.7434 0.3362 1.0655 3.3276
0.50	1.6085 0.6368 0.0000 1.8198 4.2361	1.6114 0.6387 0.0627 1.8030 4.2190	1.6198 0.6446 0.1232 1.7538 4.1682	1.6336 0.6540 0.1796 1.6757 4.0856	1.6523 0.6666 0.2300 1.5739 3.9741	1.6753 0.6820 0.2726 1.4549 3.8381	1.7019 0.6995 0.3060 1.3258 3.6826	1.7312 0.7184 0.3290 1.1938 3.5138	1.7623 0.7377 0.3407 1.0652 3.3381

$$M_{\infty} = 5, \beta_{\kappa} = 25^{\circ}, \alpha = 10^{\circ}$$

ξ	θ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.55	1.6131 0.6281 0.0000 1.8118 4.2229	1.6159 0.6301 0.0637 1.7953 4.2064	1.6243 0.6361 0.1253 1.7468 4.1575	1.6381 0.6459 0.1825 1.6696 4.0779	1.6566 0.6590 0.2336 1.5690 3.9701	1.6795 0.6749 0.2767 1.4513 3.8381	1.7059 0.6929 0.3103 1.3235 3.6864	1.7350 0.7123 0.3333 1.1925 3.5207	1.7659 0.7322 0.3449 1.0646 3.3471
0.60	1.6177 0.6195 0.0000 1.8032 4.2086	1.6205 0.6216 0.0647 1.7869 4.1927	1.6289 0.6278 0.1272 1.7391 4.1457	1.6425 0.6379 0.1853 1.6630 4.0690	1.6609 0.6514 0.2371 1.5636 3.9649	1.6836 0.6678 0.2806 1.4473 3.8367	1.7097 0.6864 0.3145 1.3208 3.6888	1.7387 0.7063 0.3375 1.1909 3.5262	1.7693 0.7267 0.3487 1.0637 3.3546
0.65	1.6223 0.6109 0.0000 1.7940 4.1931	1.6251 0.6130 0.0657 1.7779 4.1779	1.6334 0.6195 0.1291 1.7308 4.1328	1.6469 0.6299 0.1880 1.6558 4.0589	1.6651 0.6439 0.2404 1.5578 3.9584	1.6876 0.6608 0.2843 1.4428 3.8342	1.7136 0.6800 0.3184 1.3177 3.6900	1.7422 0.7004 0.3413 1.1889 3.5305	1.7726 0.7213 0.3524 1.0626 3.3610
0.70	1.6270 0.6023 0.0000 1.7840 4.1765	1.6298 0.6046 0.0667 1.7682 4.1620	1.6379 0.6112 0.1310 1.7218 4.1187	1.6513 0.6220 0.1906 1.6480 4.0477	1.6693 0.6364 0.2436 1.5514 3.9508	1.6916 0.6539 0.2879 1.4379 3.8304	1.7173 0.6736 0.3222 1.3142 3.6899	1.7457 0.6946 0.3450 1.1867 3.5335	1.7759 0.7159 0.3557 1.0613 3.3661
0.75	1.6317 0.5938 0.0000 1.7735 4.1588	1.6344 0.5961 0.0676 1.7579 4.1449	1.6425 0.6030 0.1327 1.7123 4.1035	1.6557 0.6141 0.1931 1.6396 4.0353	1.6736 0.6290 0.2466 1.5444 3.9420	1.6956 0.6470 0.2913 1.4326 3.8255	1.7210 0.6673 0.3257 1.3103 3.6887	1.7491 0.6889 0.3485 1.1841 3.5355	1.7791 0.7107 0.3589 1.0596 3.3702
0.80	1.6364 0.5853 0.0000 1.7622 4.1400	1.6391 0.5877 0.0684 1.7469 4.1267	1.6471 0.5948 0.1344 1.7021 4.0871	1.6601 0.6063 0.1955 1.6307 4.0218	1.6778 0.6216 0.2496 1.5370 3.9320	1.6995 0.6402 0.2946 1.4268 3.8194	1.7247 0.6610 0.3291 1.3061 3.6864	1.7525 0.6832 0.3518 1.1812 3.5363	1.7822 0.7056 0.3619 1.0578 3.3731
0.85	1.6412 0.5768 0.0000 1.7503 4.1199	1.6438 0.5792 0.0693 1.7353 4.1073	1.6517 0.5866 0.1361 1.6913 4.0696	1.6646 0.5984 0.1978 1.6211 4.0071	1.6820 0.6143 0.2524 1.5290 3.9209	1.7034 0.6334 0.2978 1.4205 3.8122	1.7283 0.6548 0.3324 1.3015 3.6830	1.7558 0.6776 0.3550 1.1780 3.5360	1.7852 0.7005 0.3648 1.0556 3.3751
0.90	1.6460 0.5682 0.0000 1.7377 4.0987	1.6486 0.5708 0.0701 1.7230 4.0867	1.6564 0.5784 0.1377 1.6799 4.0508	1.6691 0.5906 0.2001 1.6110 3.9913	1.6862 0.6069 0.2552 1.5205 3.9086	1.7074 0.6266 0.3009 1.4138 3.8039	1.7319 0.6486 0.3356 1.2964 3.6785	1.7591 0.6720 0.3580 1.1744 3.5347	1.7882 0.6954 0.3674 1.0532 3.3760
0.95	1.6509 0.5597 0.0000 1.7244 4.0763	1.6535 0.5623 0.0709 1.7100 4.0649	1.6611 0.5701 0.1392 1.6678 4.0309	1.6736 0.5827 0.2023 1.6003 3.9742	1.6905 0.5995 0.2578 1.5115 3.8952	1.7113 0.6198 0.3038 1.4065 3.7943	1.7355 0.6425 0.3386 1.2910 3.6728	1.7624 0.6664 0.3609 1.1705 3.5324	1.7911 0.6904 0.3700 1.0505 3.3760
1.00	1.6559 0.5511 0.0000 1.7104 4.0526	1.6584 0.5538 0.0717 1.6963 4.0419	1.6659 0.5618 0.1407 1.6550 4.0096	1.6782 0.5748 0.2044 1.5889 3.9559	1.6948 0.5922 0.2604 1.5019 3.8805	1.7153 0.6130 0.3067 1.3988 3.7837	1.7391 0.6363 0.3415 1.2851 3.6660	1.7656 0.6609 0.3636 1.1663 3.5290	1.7941 0.6855 0.3724 1.0476 3.3749
F_x	0.5814	0.5817	0.5824	0.5837	0.5853	0.5874	0.5898	0.5925	0.5953

$$M_{\infty} = 5, \beta_k = 25^\circ, \alpha = 10^\circ$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.00	1.6812 0.7840 0.2709 0.9342 2.6310	1.7240 0.8039 0.2628 0.8282 2.5150	1.8028 0.8407 0.2298 0.7399 2.5796	1.7423 0.8125 0.2064 0.6715 2.0782	1.7576 0.8196 0.1639 0.6216 1.9668	1.7689 0.8249 0.1124 0.5883 1.8909	1.7757 0.8280 0.0568 0.5696 1.8478	1.9081 0.8895 0.0000 0.5636 2.5130	1.7780 0.8291 0.0000 0.5636 1.8338
0.05	1.7450 0.8045 0.2785 0.9364 2.9388	1.7775 0.8204 0.2688 0.8302 2.7723	1.8103 0.8354 0.2484 0.7414 2.6406	1.8416 0.8499 0.2157 0.6725 2.5547	1.8691 0.8632 0.1724 0.6222 2.5115	1.8914 0.8737 0.1210 0.5885 2.5019	1.9058 0.8804 0.0625 0.5695 2.5082	1.9108 0.8827 0.0000 0.5634 2.5124	
0.10	1.7555 0.8005 0.2903 0.9383 2.9947	1.7882 0.8168 0.2808 0.8320 2.8312	1.8206 0.8319 0.2604 0.7429 2.6981	1.8508 0.8460 0.2276 0.6734 2.6051	1.8766 0.8586 0.1835 0.6226 2.5492	1.8968 0.8682 0.1297 0.5884 2.5222	1.9095 0.8742 0.0673 0.5692 2.5128	1.9138 0.8763 0.0000 0.5629 2.5108	
0.15	1.7629 0.7954 0.2999 0.9401 3.0329	1.7956 0.8119 0.2904 0.8336 2.8702	1.8276 0.8271 0.2697 0.7441 2.7346	1.8570 0.8410 0.2362 0.6742 2.6354	1.8818 0.8532 0.1910 0.6228 2.5700	1.9008 0.8625 0.1352 0.5881 2.5320	1.9127 0.8683 0.0702 0.5685 2.5137	1.9167 0.8703 0.0000 0.5621 2.5083	
0.20	1.7690 0.7899 0.3080 0.9416 3.0625	1.8015 0.8066 0.2982 0.8350 2.8997	1.8331 0.8218 0.2770 0.7451 2.7613	1.8619 0.8357 0.2429 0.6747 2.6565	1.8860 0.8477 0.1965 0.6227 2.5835	1.9044 0.8568 0.1390 0.5876 2.5373	1.9157 0.8626 0.0721 0.5676 2.5127	1.9195 0.8646 0.0000 0.5611 2.5050	
0.25	1.7742 0.7842 0.3151 0.9429 3.0866	1.8065 0.8012 0.3049 0.8361 2.9233	1.8378 0.8165 0.2831 0.7460 2.7822	1.8661 0.8304 0.2482 0.6750 2.6722	1.8897 0.8423 0.2007 0.6225 2.5927	1.9076 0.8513 0.1418 0.5868 2.5398	1.9186 0.8571 0.0735 0.5664 2.5104	1.9223 0.8590 0.0000 0.5598 2.5009	
0.30	1.7788 0.7786 0.3213 0.9439 3.1069	1.8110 0.7958 0.3107 0.8371 2.9428	1.8420 0.8112 0.2882 0.7465 2.7990	1.8699 0.8251 0.2525 0.6750 2.6843	1.8931 0.8370 0.2040 0.6219 2.5989	1.9106 0.8460 0.1440 0.5857 2.5405	1.9214 0.8517 0.0745 0.5650 2.5071	1.9250 0.8537 0.0000 0.5583 2.4961	
0.35	1.7831 0.7730 0.3268 0.9446 3.1242	1.8151 0.7905 0.3157 0.8377 2.9593	1.8458 0.8060 0.2926 0.7469 2.8128	1.8734 0.8199 0.2560 0.6749 2.6937	1.8963 0.8318 0.2066 0.6212 2.6030	1.9135 0.8407 0.1456 0.5845 2.5397	1.9241 0.8465 0.0753 0.5634 2.5028	1.9276 0.8485 0.0000 0.5566 2.4906	
0.40	1.7870 0.7676 0.3318 0.9451 3.1390	1.8188 0.7852 0.3201 0.8382 2.9733	1.8493 0.8009 0.2963 0.7471 2.8242	1.8767 0.8148 0.2590 0.6745 2.7009	1.8993 0.8267 0.2087 0.6203 2.6055	1.9163 0.8356 0.1469 0.5831 2.5377	1.9267 0.8414 0.0759 0.5616 2.4977	1.9303 0.8434 0.0000 0.5547 2.4844	
0.45	1.7907 0.7621 0.3363 0.9454 3.1519	1.8223 0.7800 0.3241 0.8385 2.9852	1.8526 0.7959 0.2996 0.7471 2.8337	1.8798 0.8098 0.2614 0.6740 2.7064	1.9022 0.8217 0.2104 0.6192 2.6065	1.9191 0.8307 0.1479 0.5814 2.5346	1.9294 0.8364 0.0764 0.5596 2.4919	1.9329 0.8384 0.0000 0.5525 2.4776	
0.50	1.7943 0.7568 0.3403 0.9454 3.1631	1.8257 0.7750 0.3276 0.8385 2.9955	1.8558 0.7910 0.3024 0.7468 2.8415	1.8827 0.8050 0.2635 0.6733 2.7105	1.9050 0.8168 0.2118 0.6179 2.6063	1.9218 0.8258 0.1487 0.5796 2.5307	1.9320 0.8315 0.0767 0.5575 2.4854	1.9355 0.8335 0.0000 0.5502 2.4702	

$$M_{\infty} = 5, \beta_K = 25^\circ, \alpha = 10^\circ$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.55	1.7976 0.7516 0.3441 0.9452 3.1727	1.8288 0.7700 0.3307 0.8383 3.0042	1.8587 0.7862 0.3048 0.7464 2.8478	1.8856 0.8003 0.2653 0.6723 2.7132	1.9078 0.8120 0.2129 0.6163 2.6050	1.9244 0.8209 0.1493 0.5775 2.5258	1.9347 0.8267 0.0770 0.5551 2.4781	1.9381 0.8287 0.0000 0.5477 2.4621	
0.60	1.8008 0.7466 0.3475 0.9418 3.1809	1.8319 0.7652 0.3336 0.8380 3.0116	1.8616 0.7815 0.3070 0.7458 2.8530	1.8883 0.7956 0.2667 0.6712 2.7148	1.9105 0.8074 0.2138 0.6147 2.6027	1.9271 0.8162 0.1498 0.5753 2.5201	1.9373 0.8219 0.0771 0.5525 2.4701	1.9407 0.8238 0.0000 0.5450 2.4533	
0.65	1.8039 0.7416 0.3506 0.9441 3.1879	1.8348 0.7605 0.3361 0.8374 3.0178	1.8644 0.7769 0.3088 0.7451 2.8569	1.8910 0.7911 0.2680 0.6700 2.7154	1.9131 0.8028 0.2145 0.6128 2.5996	1.9297 0.8115 0.1501 0.5729 2.5137	1.9399 0.8171 0.0772 0.5497 2.4615	1.9434 0.8190 0.0000 0.5420 2.4439	
0.70	1.8069 0.7366 0.3536 0.9433 3.1937	1.8376 0.7558 0.3384 0.8367 3.0228	1.8671 0.7725 0.3105 0.7441 2.8599	1.8936 0.7866 0.2690 0.6685 2.7151	1.9157 0.7982 0.2150 0.6107 2.5956	1.9324 0.8068 0.1503 0.5703 2.5065	1.9426 0.8124 0.0773 0.5467 2.4521	1.9460 0.8143 0.0000 0.5389 2.4338	
0.75	1.8099 0.7318 0.3563 0.9422 3.1985	1.8404 0.7513 0.3405 0.8358 3.0269	1.8697 0.7681 0.3119 0.7430 2.8618	1.8962 0.7822 0.2698 0.6669 2.7139	1.9183 0.7937 0.2154 0.6085 2.5908	1.9350 0.8022 0.1504 0.5674 2.4985	1.9453 0.8076 0.0773 0.5434 2.4420	1.9487 0.8095 0.0000 0.5355 2.4229	
0.80	1.8127 0.7271 0.3588 0.9409 3.2022	1.8430 0.7469 0.3424 0.8347 3.0300	1.8723 0.7638 0.3132 0.7417 2.8629	1.8987 0.7779 0.2705 0.6651 2.7118	1.9209 0.7893 0.2156 0.6060 2.5852	1.9377 0.7976 0.1504 0.5644 2.4898	1.9480 0.8028 0.0772 0.5400 2.4311	1.9515 0.8046 0.0000 0.5319 2.4113	
0.85	1.8155 0.7224 0.3611 0.9394 3.2050	1.8456 0.7425 0.3442 0.8334 3.0322	1.8748 0.7595 0.3143 0.7402 2.8632	1.9012 0.7737 0.2710 0.6631 2.7090	1.9235 0.7848 0.2158 0.6034 2.5788	1.9404 0.7929 0.1503 0.5611 2.4802	1.9508 0.7980 0.0771 0.5363 2.4194	1.9543 0.7997 0.0000 0.5281 2.3988	
0.90	1.8182 0.7178 0.3633 0.9377 3.2069	1.8482 0.7382 0.3458 0.8319 3.0335	1.8772 0.7554 0.3152 0.7386 2.8626	1.9037 0.7695 0.2714 0.6610 2.7054	1.9261 0.7804 0.2158 0.6006 2.5717	1.9431 0.7883 0.1501 0.5576 2.4699	1.9537 0.7931 0.0770 0.5323 2.4068	1.9572 0.7948 0.0000 0.5240 2.3854	
0.95	1.8209 0.7133 0.3653 0.9358 3.2078	1.8507 0.7339 0.3472 0.8303 3.0340	1.8797 0.7513 0.3160 0.7368 2.8613	1.9062 0.7653 0.2717 0.6587 2.7010	1.9287 0.7760 0.2157 0.5975 2.5638	1.9459 0.7836 0.1499 0.5539 2.4586	1.9566 0.7882 0.0769 0.5281 2.3932	1.9602 0.7897 0.0000 0.5195 2.3710	
1.00	1.8236 0.7088 0.3672 0.9336 3.2079	1.8532 0.7298 0.3485 0.8284 3.0337	1.8821 0.7472 0.3167 0.7348 2.8592	1.9087 0.7612 0.2719 0.6561 2.6959	1.9313 0.7716 0.2156 0.5942 2.5550	1.9488 0.7788 0.1497 0.5499 2.4464	1.9596 0.7831 0.0767 0.5235 2.3785	1.9633 0.7845 0.0000 0.5148 2.3554	
F_x	0.5979	0.6003	0.6020	0.6030	0.6033	0.6031	0.6027	0.6025	

$$M_{\infty} = 5, \beta_{\kappa} = 25^{\circ}, \alpha = 15^{\circ}$$

ξ	θ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.00	1.4397	1.4423	1.4500	1.4627	1.4802	1.5021	1.5281	1.5574	1.5896
	0.6713	0.6725	0.6761	0.6821	0.6902	0.7004	0.7125	0.7262	0.7412
	0.0000	0.0682	0.1350	0.1989	0.2584	0.3121	0.3584	0.3960	0.4231
	2.2679	2.2367	2.1459	2.0036	1.8220	1.6157	1.3997	1.1879	0.9915
	4.5663	4.5213	4.3894	4.1795	3.9053	3.5840	3.2348	2.8770	2.5287
0.05	1.4447	1.4482	1.4587	1.4759	1.4994	1.5287	1.5630	1.6017	1.6438
	0.6607	0.6624	0.6675	0.6759	0.6874	0.7017	0.7185	0.7373	0.7578
	0.0000	0.0717	0.1415	0.2076	0.2683	0.3219	0.3666	0.4010	0.4235
	2.2674	2.2364	2.1453	2.0050	1.8246	1.6194	1.4045	1.1934	0.9973
	4.5655	4.5264	4.4115	4.2278	3.9863	3.7011	3.3884	3.0650	2.7479
0.10	1.4497	1.4534	1.4645	1.4828	1.5076	1.5385	1.5746	1.6151	1.6591
	0.6501	0.6520	0.6577	0.6670	0.6798	0.6955	0.7140	0.7346	0.7568
	0.0000	0.0744	0.1467	0.2150	0.2773	0.3319	0.3770	0.4110	0.4327
	2.2658	2.2351	2.1458	2.0056	1.8266	1.6228	1.4090	1.1987	1.0031
	4.5633	4.5263	4.4177	4.2436	4.0142	3.7422	3.4429	3.1320	2.8256
0.15	1.4547	1.4586	1.4701	1.4889	1.5145	1.5463	1.5834	1.6249	1.6697
	0.6397	0.6418	0.6479	0.6580	0.6718	0.6888	0.7086	0.7306	0.7542
	0.0000	0.0768	0.1514	0.2216	0.2854	0.3410	0.3865	0.4206	0.4417
	2.2633	2.2329	2.1444	2.0055	1.8279	1.6256	1.4131	1.2038	1.0087
	4.5596	4.5244	4.4209	4.2547	4.0352	3.7741	3.4856	3.1846	2.8865
0.20	1.4597	1.4637	1.4754	1.4946	1.5208	1.5531	1.5908	1.6328	1.6781
	0.6294	0.6317	0.6382	0.6490	0.6637	0.6818	0.7028	0.7260	0.7508
	0.0000	0.0790	0.1556	0.2277	0.2929	0.3494	0.3955	0.4295	0.4503
	2.2597	2.2297	2.1421	2.0045	1.8286	1.6279	1.4169	1.2087	1.0142
	4.5545	4.5209	4.4220	4.2629	4.0522	3.8008	3.5220	3.2296	2.9385
0.25	1.4647	1.4687	1.4806	1.5001	1.5266	1.5592	1.5973	1.6396	1.6850
	0.6193	0.6216	0.6286	0.6401	0.6556	0.6747	0.6969	0.7213	0.7471
	0.0000	0.0810	0.1596	0.2333	0.2999	0.3574	0.4039	0.4380	0.4584
	2.2553	2.2255	2.1389	2.0029	1.8286	1.6298	1.4203	1.2133	1.0195
	4.5481	4.5160	4.4213	4.2688	4.0664	3.8240	3.5541	3.2697	2.9847
0.30	1.4697	1.4738	1.4858	1.5054	1.5320	1.5649	1.6031	1.6455	1.6910
	0.6092	0.6117	0.6191	0.6312	0.6475	0.6677	0.6909	0.7164	0.7433
	0.0000	0.0830	0.1634	0.2387	0.3066	0.3649	0.4119	0.4460	0.4660
	2.2499	2.2205	2.1349	2.0004	1.8281	1.6311	1.4234	1.2178	1.0248
	4.5403	4.5096	4.4190	4.2729	4.0783	3.8445	3.5831	3.3061	3.0269
0.35	1.4747	1.4788	1.4909	1.5106	1.5373	1.5702	1.6084	1.6508	1.6962
	0.5993	0.6019	0.6097	0.6224	0.6396	0.6607	0.6850	0.7116	0.7394
	0.0000	0.0849	0.1671	0.2439	0.3130	0.3721	0.4195	0.4536	0.4733
	2.2436	2.2146	2.1301	1.9973	1.8270	1.6321	1.4262	1.2220	1.0299
	4.5312	4.5019	4.4152	4.2752	4.0882	3.8628	3.6095	3.3397	3.0659
0.40	1.4798	1.4838	1.4959	1.5156	1.5423	1.5752	1.6133	1.6556	1.7008
	0.5895	0.5922	0.6004	0.6137	0.6317	0.6538	0.6791	0.7068	0.7356
	0.0000	0.0867	0.1705	0.2489	0.3191	0.3790	0.4267	0.4608	0.4801
	2.2364	2.2079	2.1246	1.9935	1.8252	1.6325	1.4286	1.2260	1.0349
	4.5209	4.4929	4.4101	4.2760	4.0964	3.8791	3.6338	3.3710	3.1024
0.45	1.4848	1.4889	1.5009	1.5206	1.5472	1.5800	1.6179	1.6600	1.7049
	0.5797	0.5826	0.5911	0.6050	0.6239	0.6469	0.6733	0.7020	0.7318
	0.0000	0.0884	0.1739	0.2536	0.3250	0.3857	0.4337	0.4677	0.4865
	2.2284	2.2003	2.1182	1.9890	1.8230	1.6325	1.4308	1.2298	1.0398
	4.5093	4.4826	4.4036	4.2753	4.1031	3.8938	3.6563	3.4003	3.1367
0.50	1.4899	1.4939	1.5059	1.5255	1.5520	1.5846	1.6223	1.6640	1.7086
	0.5700	0.5730	0.5820	0.5965	0.6161	0.6401	0.6676	0.6974	0.7281
	0.0000	0.0901	0.1772	0.2583	0.3307	0.3921	0.4404	0.4744	0.4927
	2.2196	2.1919	2.1111	1.9838	1.8201	1.6321	1.4326	1.2334	1.0446
	4.4965	4.4711	4.3958	4.2733	4.1083	3.9069	3.6771	3.4279	3.1693

$$M_{\infty} = 5, \beta_{\kappa} = 25^{\circ}, \alpha = 15^{\circ}$$

ξ	θ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.55	1.4950 0.5604 0.0000 2.2099 4.4825	1.4990 0.5635 0.0918 2.1827 4.4584	1.5109 0.5729 0.1804 2.1032 4.3867	1.5303 0.5880 0.2628 1.9780 4.2700	1.5567 0.6085 0.3362 1.8167 4.1121	1.5890 0.6334 0.3983 1.6313 3.9186	1.6264 0.6619 0.4469 1.4341 3.6965	1.6678 0.6928 0.4807 1.2368 3.4540	1.7120 0.7245 0.4985 1.0493 3.2002
0.60	1.5001 0.5508 0.0000 2.1994 4.4673	1.5041 0.5541 0.0934 2.1726 4.4444	1.5159 0.5638 0.1835 2.0946 4.3764	1.5352 0.5796 0.2672 1.9715 4.2654	1.5612 0.6009 0.3416 1.8128 4.1146	1.5933 0.6268 0.4043 1.6300 3.9290	1.6303 0.6564 0.4532 1.4353 3.7146	1.6712 0.6883 0.4868 1.2400 3.4788	1.7151 0.7210 0.5041 1.0540 3.2298
0.65	1.5052 0.5413 0.0000 2.1881 4.4508	1.5092 0.5447 0.0949 2.1618 4.4292	1.5209 0.5548 0.1865 2.0852 4.3649	1.5399 0.5712 0.2715 1.9643 4.2595	1.5657 0.5933 0.3469 1.8083 4.1159	1.5974 0.6203 0.4102 1.6283 3.9380	1.6341 0.6509 0.4593 1.4362 3.7314	1.6746 0.6839 0.4927 1.2431 3.5022	1.7179 0.7176 0.5094 1.0585 3.2581
0.70	1.5104 0.5318 0.0000 2.1759 4.4332	1.5143 0.5354 0.0965 2.1502 4.4128	1.5259 0.5459 0.1894 2.0751 4.3521	1.5447 0.5629 0.2756 1.9565 4.2524	1.5702 0.5859 0.3520 1.8032 4.1159	1.6015 0.6138 0.4159 1.6262 3.9459	1.6377 0.6455 0.4652 1.4368 3.7470	1.6777 0.6796 0.4984 1.2459 3.5246	1.7205 0.7143 0.5145 1.0629 3.2853
0.75	1.5157 0.5224 0.0000 2.1630 4.4143	1.5195 0.5261 0.0980 2.1378 4.3952	1.5309 0.5369 0.1923 2.0643 4.3381	1.5495 0.5546 0.2797 1.9480 4.2440	1.5746 0.5784 0.3570 1.7847 4.1146	1.6055 0.6073 0.4214 1.6236 3.9526	1.6412 0.6402 0.4709 1.4371 3.7614	1.6807 0.6753 0.5039 1.2486 3.5458	1.7229 0.7111 0.5194 1.0673 3.3115
0.80	1.5209 0.5129 0.0000 2.1492 4.3942	1.5247 0.5167 0.0994 2.1246 4.3763	1.5359 0.5280 0.1952 2.0527 4.3229	1.5542 0.5464 0.2837 1.9388 4.2344	1.5790 0.5710 0.3618 1.7915 4.1122	1.6094 0.6010 0.4269 1.6206 3.9581	1.6445 0.6349 0.4765 1.4371 3.7748	1.6834 0.6712 0.5093 1.2511 3.5660	1.7251 0.7080 0.5240 1.0715 3.3367
0.85	1.5263 0.5035 0.0000 2.1346 4.3729	1.5300 0.5074 0.1009 2.1106 4.3562	1.5410 0.5191 0.1979 2.0403 4.3064	1.5590 0.5381 0.2876 1.9290 4.2236	1.5833 0.5637 0.3666 1.7847 4.1086	1.6132 0.5946 0.4322 1.6172 3.9624	1.6478 0.6297 0.4819 1.4367 3.7870	1.6861 0.6671 0.5144 1.2533 3.5852	1.7272 0.7050 0.5285 1.0757 3.3610
0.90	1.5317 0.4940 0.0000 2.1191 4.3502	1.5353 0.4981 0.1023 2.0957 4.3348	1.5465 0.5102 0.2007 2.0271 4.2886	1.5638 0.5299 0.2915 1.9185 4.2115	1.5876 0.5563 0.3713 1.7774 4.1037	1.6170 0.5883 0.4374 1.6133 3.9656	1.6510 0.6245 0.4873 1.4361 3.7982	1.6886 0.6631 0.5194 1.2554 3.6034	1.7291 0.7021 0.5329 1.0798 3.3844
0.95	1.5372 0.4845 0.0000 2.1028 4.3262	1.5407 0.4887 0.1037 2.0800 4.3121	1.5513 0.5013 0.2033 2.0132 4.2695	1.5686 0.5216 0.2952 1.9072 4.1981	1.5920 0.5490 0.3759 1.7695 4.0976	1.6207 0.5820 0.4424 1.6089 3.9676	1.6541 0.6194 0.4924 1.4351 3.8083	1.6911 0.6592 0.5243 1.2573 3.6208	1.7309 0.6993 0.5370 1.0838 3.4071
1.00	1.5428 0.4749 0.0000 2.0855 4.3009	1.5462 0.4793 0.1050 2.0634 4.2880	1.5566 0.4923 0.2060 1.9984 4.2490	1.5735 0.5133 0.2990 1.8953 4.1834	1.5963 0.5416 0.3804 1.7609 4.0902	1.6245 0.5758 0.4474 1.6040 3.9684	1.6571 0.6143 0.4975 1.4337 3.8174	1.6934 0.6553 0.5291 1.2590 3.6372	1.7325 0.6966 0.5411 1.0877 3.4291
F_x	0.5857	0.5861	0.5874	0.5896	0.5927	0.5967	0.6015	0.6072	0.6135

$$M_{\infty} = 5, \beta_K = 25^{\circ}, \alpha = 15^{\circ}$$

ξ	θ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.00	1.6237 0.7572 0.4380 0.8185 2.2051	1.6588 0.7735 0.4382 0.6737 1.9188	1.6937 0.7898 0.4208 0.5592 1.6796	1.7269 0.8053 0.3802 0.4753 1.4957	1.7560 0.8189 0.3115 0.4210 1.3713	1.7793 0.8297 0.2024 0.3915 1.3022	1.7913 0.8353 0.0911 0.3790 1.2723	1.9555 0.9118 0.0000 0.3757 1.9559	1.7944 0.8368 0.0000 0.3757 1.2640
0.05	1.6885 0.7795 0.4326 0.8113 2.4521	1.7347 0.8017 0.4265 0.6789 2.1922	1.7815 0.8241 0.4029 0.5635 1.9815	1.8277 0.8461 0.4029 0.4786 1.8354	1.8719 0.8673 0.2890 0.4230 1.7682	1.9142 0.8870 0.2006 0.3924 1.8060	1.9465 0.9012 0.1051 0.3792 1.9055	1.9583 0.9059 0.0000 0.3756 1.9553	
0.10	1.7054 0.7800 0.4405 0.8299 2.5385	1.7530 0.8036 0.4331 0.6842 2.2851	1.8008 0.8267 0.4087 0.5679 2.0789	1.8470 0.8490 0.3645 0.4818 1.9344	1.8899 0.8695 0.2984 0.4250 1.8663	1.9270 0.8865 0.2140 0.3933 1.8802	1.9520 0.8975 0.1141 0.3792 1.9307	1.9606 0.9010 0.0000 0.3752 1.9541	
0.15	1.7168 0.7785 0.4488 0.8356 2.6054	1.7650 0.8028 0.4406 0.6894 2.3556	1.8128 0.8264 0.4156 0.5723 2.1499	1.8585 0.8483 0.3716 0.4851 2.0023	1.8998 0.8680 0.3069 0.4269 1.9255	1.9337 0.8835 0.2224 0.3940 1.9181	1.9554 0.8935 0.1187 0.3791 1.9413	1.9627 0.8967 0.0000 0.3748 1.9523	
0.20	1.7255 0.7761 0.4567 0.8412 2.6621	1.7737 0.8011 0.4478 0.6945 2.4143	1.8213 0.8248 0.4222 0.5766 2.2073	1.8664 0.8464 0.3780 0.4883 2.0545	1.9064 0.8652 0.3135 0.4289 1.9669	1.9383 0.8799 0.2279 0.3947 1.9417	1.9581 0.8895 0.1214 0.3788 1.9466	1.9646 0.8928 0.0000 0.3742 1.9501	
0.25	1.7325 0.7733 0.4642 0.8467 2.7123	1.7806 0.7988 0.4545 0.6997 2.4655	1.8279 0.8226 0.4282 0.5810 2.2562	1.8724 0.8439 0.3835 0.4915 2.0970	1.9114 0.8620 0.3185 0.4307 1.9986	1.9419 0.8762 0.2316 0.3952 1.9581	1.9604 0.8858 0.1229 0.3784 1.9493	1.9665 0.8892 0.0000 0.3735 1.9475	
0.30	1.7383 0.7703 0.4712 0.8522 2.7579	1.7863 0.7963 0.4606 0.7049 2.5115	1.8332 0.8202 0.4334 0.5854 2.2992	1.8771 0.8412 0.3880 0.4947 2.1331	1.9154 0.8587 0.3222 0.4325 2.0239	1.9448 0.8725 0.2340 0.3957 1.9700	1.9625 0.8822 0.1238 0.3779 1.9502	1.9683 0.8857 0.0000 0.3726 1.9444	
0.35	1.7433 0.7672 0.4777 0.8576 2.7999	1.7910 0.7938 0.4662 0.7101 2.5535	1.8375 0.8178 0.4381 0.5898 2.3378	1.8810 0.8384 0.3916 0.4979 2.1646	1.9186 0.8555 0.3250 0.4342 2.0449	1.9474 0.8690 0.2355 0.3960 1.9790	1.9645 0.8787 0.1243 0.3773 1.9500	1.9700 0.8823 0.0000 0.3717 1.9410	
0.40	1.7477 0.7642 0.4838 0.8630 2.8391	1.7950 0.7912 0.4713 0.7153 2.5924	1.8411 0.8154 0.4421 0.5942 2.3731	1.8842 0.8358 0.3946 0.5010 2.1927	1.9215 0.8523 0.3269 0.4358 2.0628	1.9497 0.8656 0.2364 0.3962 1.9858	1.9663 0.8753 0.1244 0.3766 1.9488	1.9718 0.8790 0.0000 0.3707 1.9371	
0.45	1.7514 0.7612 0.4895 0.8684 2.8760	1.7984 0.7887 0.4760 0.7204 2.6289	1.8442 0.8130 0.4456 0.5986 2.4057	1.8870 0.8332 0.3970 0.5041 2.2181	1.9239 0.8493 0.3282 0.4374 2.0783	1.9518 0.8623 0.2368 0.3964 1.9911	1.9682 0.8721 0.1244 0.3758 1.9469	1.9735 0.8757 0.0000 0.3695 1.9328	
0.50	1.7548 0.7583 0.4948 0.8737 2.9110	1.8014 0.7864 0.4802 0.7256 2.6633	1.8468 0.8108 0.4486 0.6030 2.4362	1.8893 0.8308 0.3988 0.5072 2.2414	1.9261 0.8465 0.3290 0.4389 2.0921	1.9538 0.8592 0.2368 0.3964 1.9951	1.9700 0.8688 0.1241 0.3748 1.9443	1.9753 0.8725 0.0000 0.3683 1.9281	

$$M_{\infty} = 5, \beta_K = 25^\circ, \alpha = 15^\circ$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.55	1.7578 0.7555 0.4998 0.8791 2.9443	1.8040 0.7841 0.4841 0.7308 2.6959	1.8491 0.8088 0.4511 0.6075 2.4649	1.8914 0.8285 0.4001 0.5104 2.2631	1.9280 0.8438 0.3294 0.4404 2.1044	1.9556 0.8561 0.2365 0.3963 1.9982	1.9718 0.8656 0.1238 0.3738 1.9411	1.9771 0.8693 0.0000 0.3669 1.9229	
0.60	1.7604 0.7528 0.5044 0.8813 2.9762	1.8062 0.7820 0.4876 0.7361 2.7272	1.8510 0.8069 0.4534 0.6119 2.4923	1.8931 0.8265 0.4011 0.5135 2.2834	1.9298 0.8414 0.3294 0.4419 2.1156	1.9574 0.8532 0.2360 0.3962 2.0003	1.9736 0.8624 0.1233 0.3726 1.9374	1.9789 0.8660 0.0000 0.3654 1.9172	
0.65	1.7628 0.7503 0.5088 0.8896 3.0068	1.8082 0.7800 0.4908 0.7413 2.7571	1.8527 0.8051 0.4552 0.6164 2.5184	1.8947 0.8246 0.4018 0.5167 2.3027	1.9313 0.8390 0.3291 0.4433 2.1259	1.9592 0.8503 0.2353 0.3959 2.0018	1.9755 0.8593 0.1228 0.3713 1.9330	1.9808 0.8628 0.0000 0.3637 1.9110	
0.70	1.7649 0.7478 0.5130 0.8948 3.0364	1.8099 0.7782 0.4937 0.7466 2.7861	1.8541 0.8036 0.4568 0.6210 2.5436	1.8960 0.8229 0.4021 0.5199 2.3212	1.9328 0.8369 0.3285 0.4447 2.1355	1.9608 0.8476 0.2344 0.3956 2.0026	1.9773 0.8561 0.1222 0.3698 1.9280	1.9827 0.8594 0.0000 0.3619 1.9041	
0.75	1.7668 0.7455 0.5169 0.9001 3.0650	1.8113 0.7765 0.4964 0.7519 2.8141	1.8553 0.8022 0.4582 0.6256 2.5680	1.8971 0.8214 0.4022 0.5231 2.3390	1.9341 0.8349 0.3277 0.4461 2.1445	1.9625 0.8449 0.2333 0.3952 2.0029	1.9793 0.8528 0.1215 0.3682 1.9224	1.9847 0.8560 0.0000 0.3599 1.8967	
0.80	1.7685 0.7433 0.5206 0.9053 3.0927	1.8126 0.7749 0.4988 0.7572 2.8413	1.8563 0.8010 0.4593 0.6303 2.5917	1.8981 0.8201 0.4021 0.5265 2.3562	1.9353 0.8330 0.3268 0.4475 2.1531	1.9641 0.8422 0.2322 0.3947 2.0027	1.9812 0.8496 0.1207 0.3664 1.9162	1.9868 0.8525 0.0000 0.3577 1.8884	
0.85	1.7700 0.7412 0.5240 0.9105 3.1196	1.8137 0.7735 0.5010 0.7627 2.8679	1.8571 0.7999 0.4602 0.6351 2.6149	1.8988 0.8190 0.4017 0.5298 2.3731	1.9363 0.8313 0.3256 0.4490 2.1614	1.9657 0.8397 0.2309 0.3942 2.0020	1.9833 0.8462 0.1199 0.3645 1.9092	1.9890 0.8489 0.0000 0.3553 1.8794	
0.90	1.7713 0.7393 0.5274 0.9158 3.1458	1.8146 0.7723 0.5031 0.7681 2.8939	1.8577 0.7991 0.4609 0.6400 2.6377	1.8995 0.8181 0.4012 0.5333 2.3898	1.9373 0.8298 0.3243 0.4505 2.1695	1.9672 0.8371 0.2294 0.3936 2.0009	1.9854 0.8427 0.1190 0.3623 1.9014	1.9913 0.8451 0.0000 0.3526 1.8693	
0.95	1.7725 0.7374 0.5305 0.9210 3.1713	1.8153 0.7712 0.5050 0.7736 2.9194	1.8582 0.7984 0.4614 0.6449 2.6602	1.9000 0.8173 0.4006 0.5369 2.4063	1.9382 0.8285 0.3229 0.4520 2.1776	1.9688 0.8347 0.2279 0.3929 1.9994	1.9876 0.8391 0.1181 0.3600 1.8927	1.9938 0.8410 0.0000 0.3497 1.8581	
1.00	1.7736 0.7357 0.5335 0.9262 3.1963	1.8159 0.7702 0.5067 0.7792 2.9444	1.8585 0.7978 0.4618 0.6500 2.6824	1.9003 0.8168 0.3998 0.5406 2.4228	1.9389 0.8273 0.3213 0.4537 2.1856	1.9703 0.8322 0.2263 0.3921 1.9976	1.9900 0.8354 0.1171 0.3573 1.8830	1.9965 0.8367 0.0000 0.3464 1.8455	
F_x	0.6202	0.6268	0.6327	0.6369	0.6385	0.6371	0.6345	0.6332	

$$M_{\infty} = 5, \beta_{\kappa} = 25^{\circ}, \alpha = 20^{\circ}$$

ξ	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.00	1.3026	1.3061	1.3165	1.3337	1.3572	1.3868	1.4217	1.4616	1.5048
	0.6074	0.6091	0.6139	0.6219	0.6329	0.6467	0.6630	0.6815	0.7017
	0.0000	0.0904	0.1792	0.2645	0.3446	0.4182	0.4832	0.5379	0.5818
	2.6842	2.6385	2.5062	2.3007	2.0423	1.7538	1.4596	1.1790	0.9282
0.05	4.7759	4.7177	4.5475	4.2780	3.9289	3.5240	3.0909	2.6536	2.2368
	1.3082	1.3125	1.3254	1.3465	1.3755	1.4114	1.4535	1.5010	1.5524
	0.5957	0.5978	0.6042	0.6147	0.6291	0.6469	0.6680	0.6917	0.7175
	0.0000	0.0935	0.1849	0.2719	0.3524	0.4246	0.4862	0.5363	0.5720
0.10	2.6835	2.6383	2.5073	2.3038	2.0475	1.7613	1.4690	1.1897	0.9395
	4.7751	4.7224	4.5680	4.3218	4.0014	3.6248	3.2187	2.8019	2.4006
	1.3137	1.3183	1.3320	1.3545	1.3852	1.4232	1.4678	1.5175	1.5715
	0.5841	0.5865	0.5937	0.6055	0.6217	0.6418	0.6655	0.6920	0.7209
0.15	0.0000	0.0963	0.1901	0.2790	0.3607	0.4332	0.4940	0.5421	0.5749
	2.6817	2.6370	2.5073	2.3058	2.0521	1.7683	1.4781	1.2002	0.9507
	4.7727	4.7228	4.5762	4.3421	4.0361	3.6752	3.2839	2.8801	2.4888
	1.3192	1.3240	1.3383	1.3616	1.3934	1.4327	1.4786	1.5298	1.5852
0.20	0.5727	0.5753	0.5832	0.5962	0.6139	0.6360	0.6619	0.6908	0.7221
	0.0000	0.0989	0.1950	0.2859	0.3689	0.4418	0.5023	0.5492	0.5801
	2.6786	2.6344	2.5063	2.3070	2.0559	1.7747	1.4867	1.2105	0.9617
	4.7688	4.7213	4.5815	4.3579	4.0647	3.7176	3.3396	2.9474	2.5651
0.25	1.3247	1.3296	1.3443	1.3682	1.4007	1.4408	1.4876	1.5396	1.5958
	0.5614	0.5643	0.5728	0.5868	0.6060	0.6298	0.6578	0.6889	0.7225
	0.0000	0.1014	0.1998	0.2926	0.3768	0.4504	0.5108	0.5568	0.5862
	2.6744	2.6308	2.5043	2.3074	2.0590	1.7806	1.4951	1.2206	0.9727
0.30	4.7635	4.7181	4.5847	4.3709	4.0896	3.7555	3.3899	3.0087	2.6350
	1.3302	1.3352	1.3501	1.3744	1.4074	1.4480	1.4953	1.5478	1.6043
	0.5503	0.5534	0.5626	0.5776	0.5982	0.6236	0.6535	0.6867	0.7224
	0.0000	0.1038	0.2045	0.2991	0.3847	0.4590	0.5194	0.5647	0.5930
0.35	2.6691	2.6260	2.5012	2.3069	2.0615	1.7861	1.5031	1.2306	0.9837
	4.7567	4.7134	4.5861	4.3816	4.1118	3.7902	3.4366	3.0661	2.7008
	1.3357	1.3407	1.3558	1.3803	1.4137	1.4546	1.5022	1.5548	1.6114
	0.5393	0.5426	0.5524	0.5684	0.5903	0.6174	0.6492	0.6844	0.7220
0.40	0.0000	0.1062	0.2090	0.3055	0.3924	0.4675	0.5280	0.5728	0.5999
	2.6626	2.6202	2.4972	2.3056	2.0633	1.7912	1.5109	1.2404	0.9947
	4.7485	4.7073	4.5859	4.3905	4.1319	3.8225	3.4807	3.1208	2.7636
	1.3412	1.3463	1.3615	1.3861	1.4196	1.4606	1.5083	1.5609	1.6174
0.45	0.5284	0.5319	0.5423	0.5593	0.5825	0.6113	0.6448	0.6819	0.7214
	0.0000	0.1085	0.2135	0.3118	0.4000	0.4758	0.5365	0.5809	0.6071
	2.6551	2.6134	2.4923	2.3034	2.0645	1.7957	1.5185	1.2502	1.0058
	4.7390	4.6998	4.5841	4.3976	4.1501	3.8528	3.5227	3.1732	2.8241
0.50	1.3467	1.3518	1.3670	1.3917	1.4252	1.4662	1.5138	1.5662	1.6224
	0.5176	0.5213	0.5323	0.5503	0.5748	0.6051	0.6404	0.6794	0.7208
	0.0000	0.1108	0.2179	0.3180	0.4075	0.4842	0.5450	0.5890	0.6142
	2.6466	2.6056	2.4864	2.3006	2.0652	1.7999	1.5258	1.2599	1.0169
0.45	4.7281	4.6909	4.5809	4.4033	4.1666	3.8814	3.5630	3.2239	2.8828
	1.3523	1.3574	1.3726	1.3972	1.4306	1.4715	1.5188	1.5709	1.6267
	0.5069	0.5108	0.5224	0.5413	0.5672	0.5991	0.6362	0.6770	0.7201
	0.0000	0.1130	0.2222	0.3241	0.4149	0.4924	0.5535	0.5971	0.6214
0.50	2.6371	2.5968	2.4797	2.2969	2.0652	1.8037	1.5329	1.2696	1.0281
	4.7159	4.6806	4.5764	4.4075	4.1818	3.9085	3.6018	3.2732	2.9401
	1.3579	1.3630	1.3781	1.4026	1.4358	1.4764	1.5234	1.5750	1.6303
	0.4963	0.5004	0.5126	0.5325	0.5596	0.5931	0.6319	0.6746	0.7195
0.50	0.0000	0.1153	0.2265	0.3301	0.4223	0.5005	0.5618	0.6051	0.6285
	2.6265	2.5870	2.4721	2.2925	2.0646	1.8070	1.5398	1.2792	1.0394
	4.7024	4.6691	4.5705	4.4103	4.1955	3.9342	3.6393	3.3213	2.9962

$$M_{\infty} = 5, \beta_r = 25^\circ, \alpha = 20^\circ$$

ξ	θ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.55	1.3635 0.4858 0.0000 2.6150 4.6876	1.3685 0.4901 0.1175 2.5762 4.6562	1.3835 0.5029 0.2307 2.4635 4.5632	1.4079 0.5237 0.3361 2.2874 4.4118	1.4409 0.5522 0.4295 2.0635 4.2079	1.4811 0.5872 0.5086 1.8100 3.9588	1.5276 0.6277 0.5701 1.5464 3.6757	1.5787 0.6722 0.6130 1.2887 3.3683	1.6334 0.7189 0.6355 1.0508 3.0514
0.60	1.3691 0.4753 0.0000 2.6024 4.6716	1.3741 0.4798 0.1196 2.5645 4.6421	1.3890 0.4932 0.2349 2.4541 4.5547	1.4131 0.5150 0.3420 2.2815 4.4120	1.4457 0.5447 0.4367 2.0018 4.2191	1.4856 0.5813 0.5166 1.8126 3.9822	1.5315 0.6236 0.5783 1.5529 3.7111	1.5820 0.6699 0.6209 1.2982 3.4144	1.6359 0.7183 0.6124 1.0623 3.1056
0.65	1.3748 0.4648 0.0000 2.5889 4.6542	1.3798 0.4695 0.1218 2.5518 4.6267	1.3945 0.4835 0.2391 2.4439 4.5449	1.4183 0.5064 0.3478 2.2749 4.4110	1.4505 0.5374 0.4439 2.0595 4.2292	1.4898 0.5755 0.5245 1.8148 4.0044	1.5352 0.6196 0.5864 1.5591 3.7455	1.5849 0.6676 0.6286 1.3077 3.4597	1.6380 0.7178 0.6493 1.0739 3.1592
0.70	1.3806 0.4544 0.0000 2.5744 4.6356	1.3854 0.4593 0.1239 2.5382 4.6100	1.3999 0.4739 0.2432 2.4328 4.5338	1.4234 0.4977 0.3536 2.2675 4.4087	1.4552 0.5301 0.4509 2.0566 4.2380	1.4939 0.5698 0.5323 1.8166 4.0257	1.5385 0.6156 0.5944 1.5652 3.7790	1.5875 0.6655 0.6363 1.3172 3.5043	1.6398 0.7173 0.6559 1.0856 3.2121
0.75	1.3864 0.4440 0.0000 2.5589 4.6156	1.3912 0.4491 0.1260 2.5236 4.5920	1.4054 0.4644 0.2472 2.4207 4.5215	1.4285 0.4892 0.3593 2.2594 4.4052	1.4597 0.5228 0.4579 2.0532 4.2457	1.4978 0.5641 0.5401 1.8181 4.0459	1.5417 0.6117 0.6024 1.5710 3.8116	1.5898 0.6633 0.6438 1.3267 3.5482	1.6411 0.7170 0.6625 1.0975 3.2644
0.80	1.3922 0.4336 0.0000 2.5424 4.5944	1.3969 0.4390 0.1281 2.5081 4.5726	1.4109 0.4548 0.2512 2.4078 4.5078	1.4336 0.4806 0.3650 2.2505 4.4004	1.4642 0.5156 0.4648 2.0491 4.2522	1.5016 0.5585 0.5477 1.8191 4.0651	1.5446 0.6078 0.6102 1.5767 3.8435	1.5918 0.6613 0.6513 1.3361 3.5914	1.6422 0.7167 0.6690 1.1094 3.3163
0.85	1.3982 0.4232 0.0000 2.5249 4.5718	1.4028 0.4288 0.1302 2.4915 4.5520	1.4165 0.4452 0.2552 2.3940 4.4928	1.4387 0.4721 0.3707 2.2409 4.3944	1.4687 0.5084 0.4717 2.0445 4.2575	1.5052 0.5529 0.5554 1.8197 4.0832	1.5473 0.6040 0.6180 1.5821 3.8745	1.5935 0.6593 0.6586 1.3455 3.6340	1.6430 0.7164 0.6753 1.1215 3.3676
0.90	1.4042 0.4128 0.0000 2.5064 4.5478	1.4087 0.4185 0.1322 2.4740 4.5300	1.4221 0.4357 0.2592 2.3793 4.4765	1.4438 0.4635 0.3763 2.2304 4.3870	1.4730 0.5013 0.4785 2.0392 4.2616	1.5088 0.5474 0.5629 1.8198 4.1004	1.5499 0.6002 0.6257 1.5873 3.9047	1.5951 0.6574 0.6659 1.3549 3.6761	1.6435 0.7162 0.6814 1.1338 3.4187
0.95	1.4103 0.4023 0.0000 2.4868 4.5224	1.4147 0.4083 0.1343 2.4554 4.5065	1.4277 0.4261 0.2631 2.3636 4.4587	1.4489 0.4550 0.3818 2.2191 4.3783	1.4774 0.4941 0.4853 2.0333 4.2646	1.5122 0.5418 0.5704 1.8196 4.1165	1.5523 0.5965 0.6333 1.5923 3.9341	1.5964 0.6555 0.6730 1.3642 3.7176	1.6437 0.7161 0.6875 1.1461 3.4693
1.00	1.4165 0.3918 0.0000 2.4661 4.4955	1.4207 0.3980 0.1363 2.4358 4.4816	1.4334 0.4164 0.2670 2.3470 4.4395	1.4540 0.4464 0.3873 2.2070 4.3682	1.4817 0.4869 0.4920 2.0267 4.2662	1.5156 0.5363 0.5778 1.8188 4.1315	1.5546 0.5928 0.6408 1.5970 3.9626	1.5976 0.6537 0.6800 1.3735 3.7585	1.6438 0.7161 0.6934 1.1586 3.5195
F_x	0.5920	0.5927	0.5947	0.5980	0.6028	0.6093	0.6173	0.6273	0.6388

$$M_{\infty} = 5, \quad \varphi_{\infty} = 25^{\circ}, \quad \alpha = 20^{\circ}$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.00	1.5520 0.7237 0.6097 0.7148 1.8562	1.5989 0.7456 0.6285 0.5434 1.5260	1.6505 0.7696 0.6171 0.4117 1.2517	1.6936 0.7897 0.6075 0.3182 1.0411	1.7463 0.8143 0.5150 0.2614 0.9047	1.7711 0.8259 0.4463 0.2436 0.8603	1.8085 0.8433 0.1630 0.2478 0.8709	1.9898 0.9279 0.0000 0.2508 1.4883	1.8129 0.8454 0.0000 0.2508 0.8785
0.05	1.6073 0.7449 0.5935 0.7260 2.0275	1.6634 0.7729 0.5968 0.5538 1.7008	1.7220 0.8010 0.5839 0.4207 1.4278	1.7774 0.8279 0.5426 0.3255 1.2133	1.8380 0.8550 0.4773 0.2664 1.1034	1.8813 0.8792 0.3276 0.2465 1.0455	1.9472 0.9109 0.1540 0.2484 1.2536	1.9909 0.9255 0.0000 0.2508 1.4882	
0.10	1.6287 0.7511 0.5924 0.7371 2.1226	1.6876 0.7819 0.5916 0.5640 1.8007	1.7477 0.8119 0.5729 0.4296 1.5275	1.8076 0.8409 0.5295 0.3325 1.3220	1.8663 0.8676 0.4570 0.2714 1.1985	1.9183 0.8959 0.3198 0.2488 1.1981	1.9684 0.9189 0.1700 0.2490 1.3687	1.9918 0.9237 0.0000 0.2507 1.4877	
0.15	1.6436 0.7547 0.5948 0.7481 2.2053	1.7037 0.7876 0.5911 0.5743 1.8869	1.7649 0.8191 0.5690 0.4385 1.6153	1.8257 0.8486 0.5240 0.3396 1.4096	1.8843 0.8750 0.4496 0.2762 1.2840	1.9358 0.9017 0.3245 0.2511 1.2903	1.9758 0.9202 0.1779 0.2498 1.4166	1.9922 0.9230 0.0000 0.2506 1.4874	
0.20	1.6548 0.7572 0.5989 0.7592 2.2812	1.7155 0.7918 0.5928 0.5846 1.9657	1.7770 0.8244 0.5684 0.4475 1.6948	1.8379 0.8541 0.5219 0.3468 1.4866	1.8959 0.8794 0.4477 0.2812 1.3558	1.9454 0.9036 0.3292 0.2536 1.3513	1.9792 0.9201 0.1816 0.2505 1.4425	1.9923 0.9228 0.0000 0.2506 1.4874	
0.25	1.6636 0.7590 0.6039 0.7703 2.3526	1.7244 0.7951 0.5958 0.5951 2.0397	1.7859 0.8287 0.5693 0.4567 1.7685	1.8465 0.8581 0.5214 0.3542 1.5561	1.9037 0.8821 0.4474 0.2863 1.4165	1.9512 0.9039 0.3325 0.2560 1.3952	1.9811 0.9197 0.1831 0.2512 1.4585	1.9922 0.9229 0.0000 0.2506 1.4874	
0.30	1.6706 0.7604 0.6093 0.7816 2.4209	1.7313 0.7979 0.5994 0.6058 2.1101	1.7924 0.8322 0.5710 0.4662 1.8379	1.8525 0.8614 0.5217 0.3618 1.6199	1.9089 0.8840 0.4475 0.2915 1.4692	1.9550 0.9036 0.3343 0.2585 1.4291	1.9823 0.9192 0.1834 0.2519 1.4698	1.9921 0.9231 0.0000 0.2506 1.4876	
0.35	1.6763 0.7615 0.6149 0.7930 2.4867	1.7367 0.8004 0.6034 0.6167 2.1777	1.7972 0.8354 0.5731 0.4759 1.9038	1.8567 0.8643 0.5222 0.3697 1.6793	1.9124 0.8855 0.4473 0.2969 1.5162	1.9575 0.9031 0.3348 0.2611 1.4567	1.9830 0.9187 0.1830 0.2526 1.4780	1.9920 0.9233 0.0000 0.2507 1.4878	
0.40	1.6810 0.7625 0.6207 0.8046 2.5506	1.7408 0.8026 0.6074 0.6278 2.2431	1.8007 0.8383 0.5753 0.4859 1.9670	1.8595 0.8671 0.5226 0.3779 1.7352	1.9146 0.8870 0.4467 0.3025 1.5591	1.9592 0.9027 0.3344 0.2636 1.4801	1.9836 0.9183 0.1821 0.2532 1.4845	1.9919 0.9234 0.0000 0.2507 1.4879	
0.45	1.6847 0.7635 0.6265 0.8164 2.6129	1.7439 0.8048 0.6115 0.6392 2.3068	1.8032 0.8411 0.5774 0.4961 2.0281	1.8613 0.8698 0.5227 0.3864 1.7885	1.9160 0.8886 0.4455 0.3084 1.5990	1.9603 0.9025 0.3333 0.2663 1.5008	1.9840 0.9179 0.1809 0.2538 1.4897	1.9919 0.9234 0.0000 0.2507 1.4879	
0.50	1.6877 0.7644 0.6322 0.8283 2.6741	1.7462 0.8069 0.6155 0.6508 2.3695	1.8047 0.8439 0.5793 0.5067 2.0373	1.8622 0.8725 0.5226 0.3951 1.8399	1.9165 0.8903 0.4439 0.3145 1.6369	1.9609 0.9025 0.3315 0.2690 1.5197	1.9843 0.9175 0.1795 0.2544 1.4940	1.9920 0.9233 0.0000 0.2507 1.4878	

$$M_{\infty} = 5, \beta_{\infty} = 25^{\circ}, \alpha = 20^{\circ}$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.55	1.6900	1.7478	1.8055	1.8624	1.9165	1.9612	1.9846	1.9921	
	0.7653	0.8091	0.8468	0.8754	0.8924	0.9028	0.9171	0.9231	
	0.6379	0.6193	0.5811	0.5222	0.4419	0.3293	0.1779	0.0000	
	0.8405	0.6627	0.5175	0.4041	0.3208	0.2718	0.2549	0.2506	
	2.7342	2.4300	2.1451	1.8896	1.6734	1.5375	1.4978	1.4874	
0.60	1.6918	1.7488	1.8058	1.8620	1.9159	1.9612	1.9849	1.9923	
	0.7663	0.8112	0.8497	0.8784	0.8947	0.9033	0.9166	0.9227	
	0.6434	0.6230	0.5827	0.5215	0.4395	0.3267	0.1762	0.0000	
	0.8529	0.6748	0.5287	0.4134	0.3274	0.2747	0.2554	0.2505	
	2.7934	2.4900	2.2018	1.9382	1.7090	1.5546	1.5010	1.4868	
0.65	1.6931	1.7493	1.8055	1.8612	1.9149	1.9609	1.9852	1.9927	
	0.7673	0.8134	0.8527	0.8816	0.8973	0.9041	0.9162	0.9222	
	0.6488	0.6265	0.5840	0.5206	0.4368	0.3238	0.1744	0.0000	
	0.8655	0.6873	0.5401	0.4230	0.3343	0.2778	0.2558	0.2502	
	2.8519	2.5492	2.2575	1.9859	1.7442	1.5714	1.5038	1.4858	
0.70	1.6939	1.7493	1.8047	1.8599	1.9134	1.9603	1.9855	1.9931	
	0.7684	0.8157	0.8558	0.8850	0.9002	0.9053	0.9157	0.9215	
	0.6540	0.6298	0.5851	0.5194	0.4338	0.3207	0.1725	0.0000	
	0.8783	0.7000	0.5518	0.4329	0.3415	0.2811	0.2562	0.2499	
	2.9098	2.6077	2.3125	2.0331	1.7792	1.5882	1.5063	1.4844	
0.75	1.6943	1.7489	1.8035	1.8582	1.9117	1.9594	1.9859	1.9937	
	0.7696	0.8181	0.8590	0.8885	0.9034	0.9067	0.9152	0.9205	
	0.6591	0.6330	0.5860	0.5180	0.4306	0.3173	0.1704	0.0000	
	0.8913	0.7130	0.5639	0.4431	0.3490	0.2846	0.2566	0.2494	
	2.9671	2.6657	2.3670	2.0797	1.8142	1.6054	1.5085	1.4824	
0.80	1.6945	1.7481	1.8020	1.8562	1.9095	1.9583	1.9862	1.9945	
	0.7708	0.8206	0.8623	0.8922	0.9070	0.9085	0.9147	0.9194	
	0.6640	0.6359	0.5868	0.5164	0.4272	0.3136	0.1682	0.0000	
	0.9046	0.7263	0.5762	0.4535	0.3568	0.2884	0.2569	0.2488	
	3.0241	2.7232	2.4210	2.1261	1.8496	1.6232	1.5104	1.4798	
0.85	1.6942	1.7470	1.8002	1.8539	1.9071	1.9569	1.9866	1.9954	
	0.7722	0.8232	0.8657	0.8961	0.9108	0.9106	0.9141	0.9179	
	0.6688	0.6387	0.5873	0.5147	0.4237	0.3099	0.1659	0.0000	
	0.9181	0.7399	0.5889	0.4643	0.3650	0.2925	0.2573	0.2480	
	3.0806	2.7804	2.4746	2.1724	1.8853	1.6418	1.5122	1.4763	
0.90	1.6937	1.7457	1.7981	1.8514	1.9044	1.9552	1.9870	1.9965	
	0.7735	0.8258	0.8693	0.9001	0.9148	0.9131	0.9135	0.9161	
	0.6734	0.6413	0.5876	0.5128	0.4201	0.3059	0.1635	0.0000	
	0.9319	0.7538	0.6018	0.4754	0.3735	0.2969	0.2576	0.2469	
	3.1369	2.8373	2.5281	2.2186	1.9215	1.6615	1.5138	1.4717	
0.95	1.6930	1.7440	1.7958	1.8485	1.9015	1.9532	1.9874	1.9981	
	0.7750	0.8286	0.8730	0.9043	0.9191	0.9160	0.9130	0.9138	
	0.6778	0.6438	0.5879	0.5109	0.4164	0.3018	0.1609	0.0000	
	0.9459	0.7680	0.6150	0.4867	0.3824	0.3017	0.2579	0.2455	
	3.1928	2.8940	2.5814	2.2648	1.9583	1.6826	1.5154	1.4656	
1.00	1.6920	1.7421	1.7932	1.8456	1.8983	1.9509	1.9878	2.0001	
	0.7766	0.8314	0.8768	0.9086	0.9235	0.9193	0.9124	0.9110	
	0.6821	0.6460	0.5880	0.5088	0.4126	0.2976	0.1581	0.0000	
	0.9601	0.7825	0.6286	0.4983	0.3915	0.3070	0.2582	0.2435	
	3.2485	2.9505	2.6346	2.3112	1.9957	1.7051	1.5169	1.4573	
F_x	0.6523	0.6665	0.6817	0.6949	0.7054	0.7068	0.6990	0.6917	

$$M_{\infty} = 5, \beta_{\kappa} = 30^{\circ}, \alpha = 5^{\circ}$$

ξ	θ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.00	1.4831	1.4840	1.4866	1.4910	1.4968	1.5041	1.5125	1.5217	1.5315
	0.8563	0.8568	0.8583	0.8608	0.8642	0.8684	0.8732	0.8786	0.8842
	0.0000	0.0219	0.0432	0.0629	0.0805	0.0953	0.1066	0.1141	0.1172
	1.8898	1.8812	1.8558	1.8150	1.7612	1.6972	1.6264	1.5520	1.4776
0.05	4.3129	4.2988	4.2572	4.1902	4.1011	3.9941	3.8743	3.7470	3.6177
	1.4882	1.4899	1.4948	1.5029	1.5139	1.5275	1.5433	1.5608	1.5795
	0.8474	0.8484	0.8513	0.8560	0.8625	0.8705	0.8798	0.8901	0.9011
	0.0000	0.0246	0.0482	0.0703	0.0898	0.1061	0.1186	0.1268	0.1302
0.10	1.8894	1.8808	1.8555	1.8148	1.7611	1.6972	1.6265	1.5522	1.4778
	4.3122	4.3027	4.2746	4.2297	4.1704	4.1002	4.0231	3.9433	3.8653
	1.4934	1.4951	1.5001	1.5084	1.5196	1.5335	1.5495	1.5673	1.5860
	0.8387	0.8397	0.8427	0.8477	0.8545	0.8628	0.8724	0.8830	0.8943
0.15	0.0000	0.0262	0.0515	0.0750	0.0959	0.1134	0.1269	0.1358	0.1397
	1.8882	1.8796	1.8543	1.8138	1.7602	1.6965	1.6259	1.5518	1.4774
	4.3101	4.3011	4.2744	4.2317	4.1751	4.1080	4.0338	3.9565	3.8802
	1.4985	1.5002	1.5053	1.5137	1.5250	1.5390	1.5552	1.5729	1.5917
0.20	0.8301	0.8312	0.8343	0.8395	0.8464	0.8550	0.8649	0.8757	0.8872
	0.0000	0.0274	0.0540	0.0787	0.1006	0.1191	0.1333	0.1427	0.1469
	1.8861	1.8775	1.8524	1.8120	1.7587	1.6952	1.6247	1.5507	1.4765
	4.3068	4.2981	4.2724	4.2312	4.1766	4.1115	4.0393	3.9637	3.8885
0.25	1.5035	1.5053	1.5104	1.5189	1.5303	1.5443	1.5605	1.5782	1.5969
	0.8217	0.8228	0.8260	0.8313	0.8385	0.8473	0.8574	0.8684	0.8800
	0.0000	0.0286	0.0562	0.0818	0.1046	0.1238	0.1386	0.1484	0.1527
	1.8833	1.8748	1.8497	1.8095	1.7564	1.6931	1.6229	1.5491	1.4750
0.30	4.3021	4.2937	4.2689	4.2290	4.1759	4.1125	4.0419	3.9676	3.8932
	1.5086	1.5103	1.5155	1.5240	1.5354	1.5494	1.5656	1.5833	1.6019
	0.8134	0.8145	0.8178	0.8233	0.8305	0.8396	0.8499	0.8612	0.8730
	0.0000	0.0295	0.0580	0.0845	0.1081	0.1279	0.1431	0.1533	0.1578
0.35	1.8797	1.8712	1.8463	1.8063	1.7535	1.6905	1.6205	1.5469	1.4729
	4.2963	4.2882	4.2641	4.2252	4.1736	4.1116	4.0424	3.9692	3.8955
	1.5136	1.5154	1.5206	1.5290	1.5404	1.5544	1.5705	1.5882	1.6068
	0.8052	0.8063	0.8098	0.8153	0.8228	0.8320	0.8425	0.8540	0.8660
0.40	0.0000	0.0304	0.0597	0.0869	0.1112	0.1315	0.1472	0.1576	0.1622
	1.8754	1.8670	1.8422	1.8025	1.7499	1.6872	1.6175	1.5442	1.4704
	4.2893	4.2814	4.2580	4.2201	4.1697	4.1091	4.0411	3.9690	3.8957
	1.5186	1.5204	1.5256	1.5340	1.5454	1.5593	1.5754	1.5930	1.6115
0.45	0.7972	0.7983	0.8018	0.8075	0.8152	0.8246	0.8353	0.8469	0.8591
	0.0000	0.0311	0.0612	0.0891	0.1139	0.1348	0.1508	0.1614	0.1661
	1.8704	1.8621	1.8375	1.7980	1.7457	1.6833	1.6140	1.5409	1.4674
	4.2812	4.2735	4.2507	4.2138	4.1646	4.1052	4.0383	3.9671	3.8944
0.50	1.5236	1.5254	1.5305	1.5389	1.5503	1.5642	1.5802	1.5977	1.6161
	0.7892	0.7904	0.7940	0.7998	0.8076	0.8172	0.8281	0.8400	0.8523
	0.0000	0.0318	0.0626	0.0911	0.1165	0.1377	0.1541	0.1649	0.1696
	1.8648	1.8565	1.8321	1.7929	1.7409	1.6789	1.6099	1.5371	1.4638
0.55	4.2720	4.2645	4.2423	4.2063	4.1581	4.0999	4.0342	3.9638	3.8917
	1.5286	1.5304	1.5355	1.5439	1.5552	1.5690	1.5849	1.6024	1.6206
	0.7814	0.7826	0.7863	0.7922	0.8002	0.8099	0.8210	0.8331	0.8456
	0.0000	0.0325	0.0638	0.0930	0.1188	0.1405	0.1571	0.1680	0.1728
0.60	1.8585	1.8503	1.8261	1.7871	1.7355	1.6739	1.6053	1.5329	1.4599
	4.2617	4.2544	4.2327	4.1976	4.1505	4.0935	4.0288	3.9592	3.8876
	1.5336	1.5353	1.5404	1.5488	1.5600	1.5738	1.5896	1.6069	1.6251
	0.7737	0.7749	0.7786	0.7847	0.7928	0.8027	0.8140	0.8263	0.8390
0.65	0.0000	0.0331	0.0650	0.0947	0.1210	0.1430	0.1599	0.1709	0.1757
	1.8516	1.8435	1.8194	1.7808	1.7296	1.6684	1.6002	1.5282	1.4554
	4.2504	4.2433	4.2222	4.1879	4.1418	4.0859	4.0222	3.9534	3.8823

$$M_{\infty} = 5, \beta_{\kappa} = 30^{\circ}, \alpha = 5^{\circ}$$

ξ	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
c. 55	1. 5386	1. 5403	1. 5454	1. 5537	1. 5648	1. 5785	1. 5943	1. 6115	1. 6295
	0. 7660	0. 7673	0. 7711	0. 7773	0. 7856	0. 7956	0. 8071	0. 8196	0. 8325
	0. 0000	0. 0337	0. 0661	0. 0963	0. 1230	0. 1453	0. 1624	0. 1736	0. 1784
	1. 8441	1. 8360	1. 8122	1. 7739	1. 7231	1. 6623	1. 5946	1. 5230	1. 4506
o. 60	4. 2381	4. 2311	4. 2106	4. 1771	4. 1321	4. 0771	4. 0145	3. 9465	3. 8759
	1. 5436	1. 5453	1. 5503	1. 5585	1. 5696	1. 5832	1. 5989	1. 6160	1. 6339
	0. 7584	0. 7597	0. 7636	0. 7699	0. 7784	0. 7886	0. 8003	0. 8129	0. 8260
	0. 0000	0. 0342	0. 0672	0. 0978	0. 1249	0. 1475	0. 1648	0. 1761	0. 1809
o. 65	1. 8360	1. 8280	1. 8044	1. 7664	1. 7160	1. 6558	1. 5885	1. 5173	1. 4453
	4. 2248	4. 2180	4. 1979	4. 1653	4. 1212	4. 0674	4. 0057	3. 9385	3. 8684
	1. 5486	1. 5503	1. 5553	1. 5634	1. 5745	1. 5880	1. 6035	1. 6205	1. 6383
	0. 7509	0. 7523	0. 7562	0. 7626	0. 7712	0. 7817	0. 7935	0. 8064	0. 8197
o. 70	0. 0000	0. 0347	0. 0682	0. 0992	0. 1267	0. 1496	0. 1671	0. 1784	0. 1832
	1. 8273	1. 8194	1. 7960	1. 7584	1. 7085	1. 6487	1. 5819	1. 5112	1. 4395
	4. 2104	4. 2038	4. 1843	4. 1524	4. 1094	4. 0566	3. 9959	3. 9295	3. 8598
	1. 5536	1. 5553	1. 5603	1. 5683	1. 5793	1. 5927	1. 6081	1. 6249	1. 6426
o. 75	0. 7435	0. 7448	0. 7489	0. 7554	0. 7641	0. 7748	0. 7868	0. 7999	0. 8133
	0. 0000	0. 0352	0. 0691	0. 1005	0. 1284	0. 1515	0. 1692	0. 1806	0. 1853
	1. 8180	1. 8102	1. 7870	1. 7498	1. 7004	1. 6411	1. 5749	1. 5046	1. 4334
	4. 1951	4. 1887	4. 1697	4. 1386	4. 0965	4. 0447	3. 9850	3. 9194	3. 8503
o. 80	1. 5587	1. 5603	1. 5652	1. 5732	1. 5841	1. 5974	1. 6127	1. 6294	1. 6470
	0. 7361	0. 7374	0. 7415	0. 7482	0. 7571	0. 7679	0. 7802	0. 7934	0. 8071
	0. 0000	0. 0356	0. 0700	0. 1018	0. 1299	0. 1534	0. 1712	0. 1826	0. 1873
	1. 8081	1. 8004	1. 7775	1. 7407	1. 6917	1. 6330	1. 5673	1. 4976	1. 4268
o. 85	4. 1788	4. 1726	4. 1541	4. 1238	4. 0826	4. 0319	3. 9731	3. 9083	3. 8398
	1. 5637	1. 5654	1. 5702	1. 5782	1. 5889	1. 6021	1. 6172	1. 6338	1. 6513
	0. 7287	0. 7301	0. 7343	0. 7410	0. 7501	0. 7611	0. 7736	0. 7870	0. 8008
	0. 0000	0. 0361	0. 0708	0. 1030	0. 1315	0. 1551	0. 1730	0. 1846	0. 1892
o. 90	1. 7976	1. 7900	1. 7674	1. 7310	1. 6825	1. 6244	1. 5593	1. 4901	1. 4198
	4. 1615	4. 1554	4. 1374	4. 1079	4. 0678	4. 0180	3. 9603	3. 8963	3. 8283
	1. 5688	1. 5705	1. 5753	1. 5831	1. 5938	1. 6068	1. 6218	1. 6383	1. 6556
	0. 7213	0. 7228	0. 7270	0. 7339	0. 7431	0. 7543	0. 7670	0. 7806	0. 7946
o. 95	0. 0000	0. 0365	0. 0716	0. 1042	0. 1329	0. 1567	0. 1748	0. 1864	0. 1909
	1. 7866	1. 7790	1. 7567	1. 7207	1. 6728	1. 6153	1. 5508	1. 4822	1. 4124
	4. 1432	4. 1373	4. 1198	4. 0911	4. 0519	4. 0032	3. 9464	3. 8833	3. 8158
	1. 5740	1. 5756	1. 5804	1. 5881	1. 5987	1. 6116	1. 6265	1. 6428	1. 6600
1. 00	0. 7140	0. 7155	0. 7198	0. 7268	0. 7362	0. 7476	0. 7604	0. 7743	0. 7885
	0. 0000	0. 0369	0. 0724	0. 1052	0. 1342	0. 1583	0. 1764	0. 1881	0. 1926
	1. 7749	1. 7674	1. 7454	1. 7099	1. 6626	1. 6057	1. 5418	1. 4738	1. 4045
	4. 1239	4. 1182	4. 1011	4. 0732	4. 0350	3. 9873	3. 9316	3. 8692	3. 8023
F _x	1. 5792	1. 5808	1. 5855	1. 5932	1. 6036	1. 6164	1. 6311	1. 6473	1. 6643
	0. 7067	0. 7082	0. 7126	0. 7197	0. 7293	0. 7408	0. 7539	0. 7679	0. 7823
	0. 0000	0. 0372	0. 0731	0. 1063	0. 1355	0. 1598	0. 1780	0. 1897	0. 1941
	1. 7626	1. 7553	1. 7335	1. 6985	1. 6518	1. 5955	1. 5324	1. 4650	1. 3962
F _x	4. 1035	4. 0979	4. 0814	4. 0543	4. 0170	3. 9704	3. 9157	3. 8542	3. 7879
	1. 5844	1. 5860	1. 5907	1. 5983	1. 6086	1. 6212	1. 6358	1. 6519	1. 6688
	0. 6993	0. 7008	0. 7053	0. 7126	0. 7223	0. 7341	0. 7473	0. 7616	0. 7762
	0. 0000	0. 0376	0. 0738	0. 1073	0. 1368	0. 1612	0. 1795	0. 1912	0. 1956
F _x	1. 7497	1. 7425	1. 7211	1. 6865	1. 6404	1. 5849	1. 5224	1. 4557	1. 3875
	4. 0820	4. 0766	4. 0607	4. 0343	3. 9980	3. 9525	3. 8987	3. 8381	3. 7725
	0. 7192	0. 7193	0. 7193	0. 7195	0. 7197	0. 7198	0. 7200	0. 7200	0. 7200

$$M_{\infty} = 5, \beta_{\kappa} = 30^{\circ}, \alpha = 5^{\circ}$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.00	1.5414	1.5510	1.5600	1.5680	1.5746	1.5795	1.5825	1.6806	1.5835
	0.8899	0.8955	0.9007	0.9053	0.9091	0.9119	0.9136	0.9703	0.9142
	0.1157	0.1096	0.0990	0.0844	0.0664	0.0458	0.0233	0.0000	0.0000
	1.4061	1.3401	1.2818	1.2326	1.1936	1.1655	1.1486	1.1429	1.1429
	3.4917	3.3739	3.2683	3.1783	3.1062	3.0538	3.0220	3.5809	3.0113
0.05	1.5987	1.6177	1.6358	1.6521	1.6658	1.6762	1.6827	1.6850	
	0.9124	0.9235	0.9341	0.9436	0.9516	0.9577	0.9615	0.9627	
	0.1286	0.1220	0.1105	0.0946	0.0747	0.0517	0.0265	0.0000	
	1.4063	1.3402	1.2818	1.2326	1.1935	1.1653	1.1483	1.1426	
	3.7930	3.7298	3.6780	3.6384	3.6105	3.5928	3.5833	3.5802	
0.10	1.6052	1.6240	1.6418	1.6577	1.6709	1.6809	1.6871	1.6892	
	0.9057	0.9169	0.9274	0.9369	0.9447	0.9506	0.9543	0.9555	
	0.1382	0.1315	0.1194	0.1025	0.0812	0.0563	0.0288	0.0000	
	1.4059	1.3398	1.2813	1.2320	1.1928	1.1646	1.1475	1.1418	
	3.8085	3.7446	3.6907	3.6478	3.6161	3.5946	3.5824	3.5783	
0.15	1.6108	1.6295	1.6470	1.6626	1.6755	1.6853	1.6913	1.6934	
	0.8987	0.9101	0.9206	0.9300	0.9378	0.9437	0.9473	0.9485	
	0.1455	0.1385	0.1259	0.1082	0.0857	0.0595	0.0305	0.0000	
	1.4050	1.3389	1.2804	1.2309	1.1917	1.1633	1.1462	1.1404	
	3.8171	3.7525	3.6971	3.6520	3.6177	3.5939	3.5799	3.5753	
0.20	1.6159	1.6345	1.6518	1.6672	1.6800	1.6895	1.6954	1.6975	
	0.8918	0.9032	0.9138	0.9233	0.9311	0.9369	0.9406	0.9418	
	0.1514	0.1441	0.1311	0.1126	0.0893	0.0619	0.0317	0.0000	
	1.4036	1.3375	1.2789	1.2294	1.1900	1.1616	1.1444	1.1386	
	3.8220	3.7569	3.7002	3.6534	3.6171	3.5915	3.5763	3.5713	
0.25	1.6208	1.6392	1.6564	1.6716	1.6842	1.6936	1.6995	1.7015	
	0.8849	0.8964	0.9071	0.9166	0.9245	0.9303	0.9340	0.9352	
	0.1563	0.1489	0.1354	0.1163	0.0922	0.0640	0.0328	0.0000	
	1.4016	1.3356	1.2770	1.2274	1.1879	1.1594	1.1421	1.1363	
	3.8244	3.7588	3.7011	3.6528	3.6149	3.5879	3.5716	3.5662	
0.30	1.6256	1.6438	1.6609	1.6759	1.6884	1.6977	1.7034	1.7054	
	0.8780	0.8897	0.9005	0.9101	0.9180	0.9239	0.9276	0.9288	
	0.1607	0.1530	0.1391	0.1195	0.0947	0.0657	0.0336	0.0000	
	1.3992	1.3332	1.2746	1.2249	1.1854	1.1568	1.1395	1.1337	
	3.8247	3.7588	3.7001	3.6506	3.6113	3.5830	3.5659	3.5602	
0.35	1.6302	1.6483	1.6652	1.6801	1.6925	1.7017	1.7074	1.7093	
	0.8713	0.8831	0.8941	0.9037	0.9117	0.9176	0.9213	0.9225	
	0.1645	0.1565	0.1423	0.1222	0.0968	0.0671	0.0344	0.0000	
	1.3963	1.3304	1.2718	1.2221	1.1825	1.1538	1.1364	1.1306	
	3.8235	3.7571	3.6976	3.6470	3.6065	3.5772	3.5593	3.5533	
0.40	1.6347	1.6527	1.6695	1.6843	1.6965	1.7056	1.7113	1.7132	
	0.8647	0.8766	0.8877	0.8974	0.9054	0.9114	0.9151	0.9164	
	0.1679	0.1597	0.1452	0.1246	0.0987	0.0684	0.0350	0.0000	
	1.3930	1.3271	1.2685	1.2188	1.1792	1.1504	1.1330	1.1271	
	3.8208	3.7541	3.6939	3.6422	3.6007	3.5703	3.5518	3.5456	
0.45	1.6391	1.6570	1.6736	1.6883	1.7005	1.7095	1.7151	1.7170	
	0.8582	0.8702	0.8814	0.8912	0.8993	0.9054	0.9091	0.9103	
	0.1710	0.1626	0.1477	0.1267	0.1003	0.0695	0.0356	0.0000	
	1.3892	1.3235	1.2649	1.2152	1.1755	1.1467	1.1292	1.1233	
	3.8169	3.7498	3.6889	3.6363	3.5938	3.5625	3.5435	3.5370	
0.50	1.6434	1.6612	1.6778	1.6924	1.7044	1.7134	1.7189	1.7208	
	0.8517	0.8640	0.8752	0.8851	0.8933	0.8994	0.9031	0.9044	
	0.1738	0.1652	0.1500	0.1286	0.1018	0.0705	0.0361	0.0000	
	1.3850	1.3194	1.2609	1.2111	1.1714	1.1425	1.1250	1.1192	
	3.8117	3.7443	3.6828	3.6294	3.5860	3.5539	3.5343	3.5276	

$$M_{\infty} = 5, \beta_{\infty} = 30^{\circ}, \alpha = 5^{\circ}$$

ξ	θ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.55	1.6478 0.8454 0.1764 1.3804 3.8054	1.6654 0.8577 0.1676 1.3149 3.7378	1.6819 0.8691 0.1521 1.2565 3.6757	1.6964 0.8791 0.1304 1.2068 3.6215	1.7083 0.8874 0.1031 1.1670 3.5772	1.7173 0.8935 0.0714 1.1381 3.5444	1.7228 0.8973 0.0365 1.1205 3.5243	1.7246 0.8985 0.0000 1.1146 3.5174	
0.60	1.6520 0.8391 0.1788 1.3753 3.7980	1.6696 0.8516 0.1697 1.3101 3.7302	1.6859 0.8631 0.1540 1.2517 3.6676	1.7003 0.8732 0.1319 1.2020 3.6127	1.7122 0.8815 0.1043 1.1622 3.5676	1.7211 0.8877 0.0722 1.1332 3.5341	1.7266 0.8915 0.0369 1.1157 3.5135	1.7284 0.8928 0.0000 1.1098 3.5065	
0.65	1.6563 0.8329 0.1809 1.3699 3.7897	1.6737 0.8455 0.1717 1.3048 3.7217	1.6900 0.8572 0.1557 1.2466 3.6586	1.7043 0.8674 0.1333 1.1969 3.6030	1.7161 0.8757 0.1054 1.1571 3.5571	1.7249 0.8819 0.0729 1.1281 3.5230	1.7304 0.8858 0.0373 1.1105 3.5019	1.7322 0.8871 0.0000 1.1046 3.4947	
0.70	1.6605 0.8267 0.1830 1.3641 3.7803	1.6778 0.8395 0.1736 1.2992 3.7121	1.6940 0.8513 0.1573 1.2411 3.6486	1.7082 0.8616 0.1346 1.1914 3.5924	1.7200 0.8700 0.1064 1.1516 3.5458	1.7288 0.8762 0.0736 1.1226 3.5110	1.7342 0.8801 0.0376 1.1050 3.4895	1.7360 0.8814 0.0000 1.0990 3.4822	
0.75	1.6647 0.8206 0.1848 1.3578 3.7700	1.6819 0.8336 0.1753 1.2932 3.7017	1.6980 0.8455 0.1587 1.2352 3.6377	1.7122 0.8558 0.1358 1.1856 3.5809	1.7239 0.8643 0.1073 1.1458 3.5337	1.7326 0.8706 0.0742 1.1167 3.4983	1.7380 0.8745 0.0379 1.0991 3.4763	1.7399 0.8758 0.0000 1.0932 3.4689	
0.80	1.6689 0.8146 0.1866 1.3512 3.7587	1.6861 0.8277 0.1768 1.2868 3.6903	1.7020 0.8397 0.1601 1.2290 3.6260	1.7161 0.8501 0.1369 1.1794 3.5685	1.7278 0.8586 0.1081 1.1396 3.5207	1.7365 0.8650 0.0747 1.1106 3.4847	1.7419 0.8689 0.0382 1.0929 3.4624	1.7437 0.8702 0.0000 1.0869 3.4548	
0.85	1.6731 0.8085 0.1882 1.3442 3.7465	1.6902 0.8218 0.1783 1.2801 3.6780	1.7060 0.8339 0.1613 1.2224 3.6133	1.7201 0.8444 0.1379 1.1729 3.5553	1.7317 0.8530 0.1088 1.1331 3.5068	1.7404 0.8594 0.0752 1.1040 3.4703	1.7457 0.8633 0.0384 1.0863 3.4476	1.7476 0.8646 0.0000 1.0804 3.4398	
0.90	1.6774 0.8026 0.1898 1.3367 3.7333	1.6943 0.8159 0.1796 1.2729 3.6648	1.7101 0.8281 0.1625 1.2154 3.5997	1.7241 0.8387 0.1388 1.1660 3.5412	1.7356 0.8474 0.1095 1.1262 3.4921	1.7443 0.8538 0.0756 1.0971 3.4550	1.7496 0.8577 0.0387 1.0794 3.4319	1.7515 0.8590 0.0000 1.0734 3.4241	
0.95	1.6816 0.7966 0.1912 1.3288 3.7191	1.6984 0.8101 0.1809 1.2653 3.6506	1.7142 0.8224 0.1635 1.2080 3.5852	1.7281 0.8331 0.1396 1.1587 3.5262	1.7396 0.8418 0.1101 1.1190 3.4765	1.7483 0.8482 0.0760 1.0838 3.4389	1.7536 0.8521 0.0389 1.0721 3.4154	1.7554 0.8534 0.0000 1.0661 3.4074	
1.00	1.6859 0.7906 0.1926 1.3206 3.7040	1.7026 0.8042 0.1821 1.2574 3.6354	1.7183 0.8166 0.1645 1.2002 3.5697	1.7321 0.8274 0.1404 1.1510 3.5102	1.7436 0.8361 0.1107 1.1113 3.4599	1.7523 0.8425 0.0764 1.0822 3.4218	1.7576 0.8465 0.0390 1.0644 3.3980	1.7594 0.8478 0.0000 1.0584 3.3898	
F_x	0.7198	0.7194	0.7190	0.7184	0.7179	0.7174	0.7171	0.7170	

$$M_{\infty} = 5, \beta_{\kappa} = 30^{\circ}, \alpha = 10^{\circ}$$

ξ	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.00	1.3628	1.3647	1.3702	1.3792	1.3916	1.4070	1.4251	1.4453	1.4670
	0.7868	0.7879	0.7911	0.7963	0.8034	0.8123	0.8228	0.8344	0.8470
	0.0000	0.0443	0.0874	0.1279	0.1648	0.1968	0.2226	0.2410	0.2508
	2.3023	2.2825	2.2245	2.1324	2.0125	1.8726	1.7212	1.5669	1.4173
0.05	4.5738	4.5456	4.4628	4.3299	4.1546	3.9462	3.7157	3.4746	3.2342
	1.3684	1.3714	1.3803	1.3948	1.4146	1.4393	1.4682	1.5006	1.5359
	0.7771	0.7789	0.7841	0.7927	0.8045	0.8191	0.8362	0.8553	0.8761
	0.0000	0.0481	0.0947	0.1382	0.1774	0.2108	0.2371	0.2553	0.2642
0.10	2.3018	2.2821	2.2244	2.1326	2.0132	1.8738	1.7228	1.5688	1.4192
	4.5730	4.5510	4.4862	4.3824	4.2455	4.0835	3.9056	3.7222	3.5440
	1.3741	1.3772	1.3865	1.4017	1.4224	1.4480	1.4780	1.5115	1.5476
	0.7675	0.7694	0.7751	0.7843	0.7969	0.8125	0.8307	0.8509	0.8726
0.15	0.0000	0.0507	0.0998	0.1458	0.1870	0.2222	0.2499	0.2691	0.2789
	2.3003	2.2807	2.2233	2.1321	2.0132	1.8744	1.7239	1.5702	1.4208
	4.5709	4.5502	4.4893	4.3916	4.2627	4.1097	3.9412	3.7668	3.5965
	1.3797	1.3829	1.3924	1.4080	1.4292	1.4554	1.4859	1.5199	1.5562
0.20	0.7581	0.7601	0.7660	0.7758	0.7890	0.8053	0.8243	0.8452	0.8675
	0.0000	0.0529	0.1041	0.1520	0.1950	0.2316	0.2605	0.2806	0.2909
	2.2978	2.2784	2.2213	2.1307	2.0125	1.8743	1.7245	1.5713	1.4221
	4.5673	4.5477	4.4898	4.3968	4.2738	4.1274	3.9657	3.7976	3.6324
0.25	1.3853	1.3886	1.3982	1.4140	1.4355	1.4620	1.4928	1.5270	1.5635
	0.7487	0.7508	0.7571	0.7672	0.7810	0.7979	0.8175	0.8391	0.8619
	0.0000	0.0548	0.1079	0.1575	0.2019	0.2398	0.2696	0.2904	0.3012
	2.2944	2.2751	2.2185	2.1285	2.0110	1.8737	1.7246	1.5718	1.4230
0.30	4.5625	4.5437	4.4883	4.3993	4.2813	4.1406	3.9845	3.8214	3.6600
	1.3910	1.3942	1.4040	1.4199	1.4415	1.4682	1.4991	1.5334	1.5699
	0.7396	0.7417	0.7482	0.7587	0.7730	0.7905	0.8107	0.8328	0.8561
	0.0000	0.0566	0.1113	0.1624	0.2082	0.2471	0.2778	0.2992	0.3102
0.35	2.2901	2.2709	2.2148	2.1254	2.0089	1.8724	1.7241	1.5720	1.4235
	4.5563	4.5383	4.4853	4.3998	4.2864	4.1506	3.9994	3.8406	3.6825
	1.3966	1.3999	1.4096	1.4256	1.4473	1.4741	1.5051	1.5393	1.5758
	0.7305	0.7328	0.7394	0.7503	0.7650	0.7831	0.8038	0.8264	0.8502
0.40	0.0000	0.0581	0.1144	0.1669	0.2139	0.2538	0.2853	0.3071	0.3183
	2.2848	2.2659	2.2102	2.1217	2.0060	1.8705	1.7230	1.5716	1.4236
	4.5489	4.5316	4.4807	4.3986	4.2893	4.1581	4.0114	3.8565	3.7011
	1.4022	1.4055	1.4153	1.4313	1.4530	1.4797	1.5107	1.5449	1.5812
0.45	0.7216	0.7239	0.7308	0.7420	0.7572	0.7757	0.7969	0.8201	0.8443
	0.0000	0.0596	0.1173	0.1711	0.2192	0.2600	0.2921	0.3143	0.3256
	2.2788	2.2600	2.2049	2.1172	2.0025	1.8680	1.7215	1.5709	1.4234
	4.5402	4.5237	4.4748	4.3959	4.2905	4.1635	4.0210	3.8697	3.7168
0.50	1.4077	1.4110	1.4208	1.4368	1.4585	1.4852	1.5161	1.5502	1.5864
	0.7127	0.7151	0.7222	0.7338	0.7493	0.7684	0.7901	0.8137	0.8383
	0.0000	0.0610	0.1200	0.1750	0.2241	0.2657	0.2984	0.3209	0.3323
	2.2719	2.2533	2.1988	2.1119	1.9983	1.8649	1.7195	1.5697	1.4228
0.55	4.5304	4.5146	4.4676	4.3917	4.2900	4.1672	4.0287	3.8808	3.7302
	1.4133	1.4166	1.4264	1.4423	1.4639	1.4906	1.5213	1.5553	1.5913
	0.7040	0.7065	0.7138	0.7256	0.7416	0.7611	0.7833	0.8074	0.8325
	0.0000	0.0623	0.1225	0.1787	0.2287	0.2711	0.3043	0.3271	0.3385
0.60	2.2642	2.2458	2.1919	2.1060	1.9935	1.8613	1.7170	1.5681	1.4218
	4.5195	4.5042	4.4592	4.3862	4.2882	4.1693	4.0346	3.8899	3.7415
	1.4189	1.4222	1.4319	1.4478	1.4693	1.4958	1.5264	1.5601	1.5959
	0.6954	0.6979	0.7054	0.7176	0.7340	0.7539	0.7766	0.8012	0.8267
0.65	0.0000	0.0636	0.1250	0.1821	0.2331	0.2762	0.3098	0.3328	0.3442
	2.2557	2.2375	2.1843	2.0993	1.9881	1.8572	1.7170	1.5661	1.4206
	4.5074	4.4928	4.4495	4.3794	4.2849	4.1699	4.0389	3.8973	3.7510
	1.4242	1.4275	1.4372	1.4531	1.4746	1.5011	1.5317	1.5654	1.6012

$$M_{\infty} = 5, \beta_{\kappa} = 30^{\circ}, \alpha = 10^{\circ}$$

ξ	θ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.55	1.4245 0.6868 0.0000 2.2464 4.4942	1.4278 0.6894 0.0647 2.2285 4.4802	1.4374 0.6971 0.1273 2.1759 4.4388	1.4532 0.7096 0.1854 2.0920 4.3714	1.4746 0.7264 0.2373 1.9820 4.2804	1.5009 0.7468 0.2810 1.8524 4.1692	1.5313 0.7700 0.3150 1.7106 4.0418	1.5649 0.7951 0.3382 1.5637 3.9032	1.6004 0.8209 0.3495 1.4189 3.7589
0.60	1.4301 0.6783 0.0000 2.2364 4.4799	1.4334 0.6810 0.0659 2.2188 4.4665	1.4430 0.6889 0.1295 2.1669 4.4268	1.4586 0.7017 0.1886 2.0841 4.3622	1.4798 0.7189 0.2412 1.9754 4.2746	1.5060 0.7398 0.2855 1.8472 4.1671	1.5362 0.7635 0.3200 1.7067 4.0433	1.5695 0.7890 0.3432 1.5610 3.9077	1.6048 0.8153 0.3544 1.4170 3.7654
0.65	1.4358 0.6699 0.0000 2.2257 4.4645	1.4390 0.6727 0.0670 2.2083 4.4517	1.4485 0.6808 0.1316 2.1571 4.4138	1.4640 0.6939 0.1916 2.0754 4.3518	1.4851 0.7115 0.2450 1.9681 4.2677	1.5110 0.7328 0.2899 1.8414 4.1638	1.5409 0.7570 0.3246 1.7023 4.0436	1.5740 0.7830 0.3480 1.5578 3.9109	1.6090 0.8097 0.3591 1.4147 3.7705
0.70	1.4414 0.6616 0.0000 2.2142 4.4480	1.4446 0.6644 0.0680 2.1970 4.4358	1.4540 0.6727 0.1336 2.1467 4.3996	1.4694 0.6861 0.1945 2.0661 4.3404	1.4902 0.7041 0.2486 1.9603 4.2595	1.5159 0.7259 0.2940 1.8351 4.1593	1.5456 0.7506 0.3290 1.6975 4.0426	1.5784 0.7770 0.3525 1.5543 3.9129	1.6132 0.8042 0.3634 1.4121 3.7744
0.75	1.4471 0.6533 0.0000 2.2020 4.4304	1.4503 0.6561 0.0690 2.1851 4.4188	1.4596 0.6646 0.1355 2.1355 4.3844	1.4748 0.6784 0.1973 2.0562 4.3278	1.4954 0.6968 0.2521 1.9518 4.2503	1.5208 0.7190 0.2979 1.8283 4.1537	1.5502 0.7442 0.3333 1.6922 4.0404	1.5827 0.7712 0.3568 1.5503 3.9136	1.6172 0.7987 0.3675 1.4092 3.7771
0.80	1.4528 0.6450 0.0000 2.1890 4.4118	1.4559 0.6479 0.0700 2.1724 4.4008	1.4652 0.6566 0.1374 2.1236 4.3680	1.4802 0.6707 0.2000 2.0456 4.3141	1.5006 0.6895 0.2554 1.9428 4.2399	1.5257 0.7122 0.3017 1.8210 4.1469	1.5548 0.7379 0.3373 1.6865 4.0371	1.5870 0.7653 0.3608 1.5460 3.9133	1.6212 0.7934 0.3714 1.4059 3.7787
0.85	1.4586 0.6368 0.0000 2.1753 4.3920	1.4617 0.6398 0.0709 2.1590 4.3816	1.4708 0.6486 0.1392 2.1111 4.3506	1.4856 0.6630 0.2026 2.0344 4.2992	1.5057 0.6822 0.2586 1.9332 4.2284	1.5306 0.7054 0.3054 1.8131 4.1390	1.5593 0.7316 0.3412 1.6803 4.0327	1.5911 0.7596 0.3647 1.5413 3.9118	1.6251 0.7880 0.3750 1.4023 3.7792
0.90	1.4644 0.6285 0.0000 2.1608 4.3711	1.4675 0.6316 0.0718 2.1449 4.3613	1.4764 0.6407 0.1410 2.0978 4.3320	1.4910 0.6554 0.2050 2.0225 4.2833	1.5109 0.6750 0.2617 1.9230 4.2157	1.5354 0.6987 0.3089 1.8047 4.1299	1.5639 0.7254 0.3449 1.6737 4.0272	1.5953 0.7538 0.3684 1.5363 3.9093	1.6289 0.7828 0.3785 1.3985 3.7787
0.95	1.4703 0.6203 0.0000 2.1456 4.3491	1.4733 0.6234 0.0727 2.1299 4.3399	1.4821 0.6327 0.1427 2.0838 4.3122	1.4965 0.6477 0.2075 2.0099 4.2662	1.5161 0.6678 0.2647 1.9121 4.2019	1.5403 0.6920 0.3122 1.7957 4.1198	1.5684 0.7192 0.3484 1.6666 4.0206	1.5995 0.7482 0.3719 1.5308 3.9056	1.6327 0.7776 0.3818 1.3943 3.7772
1.00	1.4763 0.6120 0.0000 2.1296 4.3259	1.4792 0.6153 0.0735 2.1143 4.3173	1.4879 0.6247 0.1443 2.0691 4.2913	1.5021 0.6401 0.2098 1.9966 4.2479	1.5213 0.6606 0.2675 1.9006 4.1870	1.5452 0.6853 0.3155 1.7862 4.1085	1.5728 0.7130 0.3518 1.6590 4.0129	1.6036 0.7425 0.3753 1.5249 3.9010	1.6365 0.7724 0.3849 1.3897 3.7747
F_x	0.7256	0.7257	0.7262	0.7270	0.7280	0.7291	0.7303	0.7314	0.7323

$$M_{\infty} = 5, \xi_{\kappa} = 30^{\circ}, \alpha = 10^{\circ}$$

ξ	θ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.00	1.4895 0.8600 0.2510 1.2787 3.0050	1.5120 0.8729 0.2404 1.1562 2.7964	1.5333 0.8852 0.2185 1.0528 2.6154	1.5523 0.8962 0.1858 0.9701 2.4670	1.5679 0.9052 0.1446 0.9082 2.3535	1.5793 0.9118 0.0983 0.8659 2.2746	1.5862 0.9158 0.0498 0.8414 2.2284	1.7569 1.0143 0.0000 0.8333 3.0955	1.5885 0.9171 0.0000 0.8333 2.2132
0.05	1.5730 0.8979 0.2631 1.2806 3.3819	1.6108 0.9207 0.2514 1.1577 3.2464	1.6483 0.9421 0.2293 1.0540 3.1463	1.6837 0.9627 0.1973 0.9709 3.0873	1.7150 0.9809 0.1568 0.9086 3.0672	1.7397 0.9952 0.1093 0.8659 3.0738	1.7555 1.0043 0.0564 0.8413 3.0883	1.7610 1.0073 0.0000 0.8331 3.0949	
0.10	1.5852 0.8951 0.2784 1.2822 3.4402	1.6230 0.9176 0.2672 1.1591 3.3073	1.6598 0.9394 0.2452 1.0550 3.2054	1.6939 0.9594 0.2127 0.9715 3.1384	1.7232 0.9766 0.1706 0.9087 3.1040	1.7458 0.9898 0.1197 0.8656 3.0928	1.7599 0.9981 0.0620 0.8407 3.0923	1.7648 1.0008 0.0000 0.8324 3.0931	
0.15	1.5939 0.8905 0.2907 1.2834 3.4793	1.6316 0.9133 0.2796 1.1602 3.3471	1.6679 0.9350 0.2573 1.0557 3.2424	1.7010 0.9546 0.2240 0.9717 3.1689	1.7291 0.9713 0.1802 0.9085 3.1245	1.7506 0.9840 0.1267 0.8650 3.1022	1.7639 0.9920 0.0656 0.8397 3.0929	1.7685 0.9947 0.0000 0.8314 3.0904	
0.20	1.6012 0.8853 0.3011 1.2844 3.5091	1.6386 0.9082 0.2899 1.1610 3.3768	1.6744 0.9299 0.2671 1.0562 3.2693	1.7068 0.9494 0.2328 0.9717 3.1900	1.7342 0.9659 0.1874 0.9080 3.1377	1.7548 0.9784 0.1318 0.8640 3.1071	1.7676 0.9862 0.0682 0.8385 3.0916	1.7720 0.9888 0.0000 0.8300 3.0867	
0.25	1.6075 0.8798 0.3102 1.2850 3.5331	1.6446 0.9029 0.2987 1.1615 3.4002	1.6801 0.9247 0.2753 1.0563 3.2899	1.7120 0.9441 0.2400 0.9714 3.2055	1.7387 0.9604 0.1932 0.9072 3.1466	1.7588 0.9728 0.1358 0.8628 3.1093	1.7712 0.9806 0.0702 0.8369 3.0889	1.7755 0.9831 0.0000 0.8283 3.0822	
0.30	1.6132 0.8742 0.3182 1.2853 3.5530	1.6501 0.8975 0.3063 1.1617 3.4194	1.6852 0.9194 0.2823 1.0562 3.3063	1.7166 0.9388 0.2461 0.9708 3.2173	1.7429 0.9550 0.1980 0.9061 3.1525	1.7626 0.9673 0.1390 0.8612 3.1095	1.7747 0.9751 0.0718 0.8350 3.0851	1.7788 0.9777 0.0000 0.8263 3.0770	
0.35	1.6185 0.8686 0.3254 1.2853 3.5697	1.6552 0.8921 0.3131 1.1616 3.4353	1.6899 0.9140 0.2884 1.0558 3.3195	1.7210 0.9335 0.2512 0.9700 3.2261	1.7469 0.9497 0.2019 0.9047 3.1562	1.7662 0.9620 0.1417 0.8594 3.1083	1.7781 0.9698 0.0732 0.8329 3.0804	1.7822 0.9724 0.0000 0.8241 3.0710	
0.40	1.6234 0.8630 0.3319 1.2850 3.5839	1.6599 0.8868 0.3192 1.1612 3.4487	1.6943 0.9088 0.2938 1.0552 3.3302	1.7250 0.9283 0.2557 0.9689 3.2328	1.7506 0.9445 0.2053 0.9031 3.1580	1.7697 0.9568 0.1439 0.8573 3.1057	1.7814 0.9646 0.0743 0.8305 3.0748	1.7854 0.9672 0.0000 0.8216 3.0643	
0.45	1.6281 0.8575 0.3378 1.2843 3.5959	1.6643 0.8815 0.3246 1.1606 3.4598	1.6984 0.9036 0.2986 1.0542 3.3388	1.7289 0.9231 0.2596 0.9675 3.2376	1.7543 0.9394 0.2082 0.9012 3.1584	1.7731 0.9517 0.1458 0.8549 3.1021	1.7847 0.9595 0.0752 0.8278 3.0683	1.7887 0.9621 0.0000 0.8188 3.0569	
0.50	1.6325 0.8520 0.3433 1.2834 3.6051	1.6685 0.8762 0.3295 1.1597 3.4691	1.7024 0.8985 0.3028 1.0531 3.3457	1.7327 0.9181 0.2630 0.9659 3.2408	1.7578 0.9344 0.2107 0.8991 3.1575	1.7765 0.9467 0.1474 0.8524 3.0975	1.7880 0.9545 0.0760 0.8249 3.0612	1.7919 0.9571 0.0000 0.8158 3.0489	

$$M_{\infty} = 5, \beta_{\kappa} = 30^{\circ}, \alpha = 10^{\circ}$$

ξ	θ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.55	1.6368 0.8466 0.3483 1.2822 3.6147	1.6725 0.8711 0.3340 1.1585 3.4768	1.7062 0.8935 0.3066 1.0517 3.3510	1.7363 0.9132 0.2660 0.9640 3.2426	1.7612 0.9295 0.2129 0.8967 3.1555	1.7798 0.9418 0.1488 0.8495 3.0919	1.7912 0.9496 0.0766 0.8218 3.0533	1.7951 0.9523 0.0000 0.8125 3.0402	
0.60	1.6409 0.8413 0.3529 1.2807 3.6218	1.6764 0.8660 0.3381 1.1571 3.4830	1.7099 0.8886 0.3101 1.0500 3.3550	1.7398 0.9083 0.2687 0.9620 3.2433	1.7646 0.9247 0.2148 0.8941 3.1524	1.7831 0.9370 0.1500 0.8465 3.0856	1.7944 0.9448 0.0772 0.8184 3.0447	1.7983 0.9474 0.0000 0.8090 3.0308	
0.65	1.6449 0.8461 0.3572 1.2789 3.6276	1.6802 0.8610 0.3419 1.1555 3.4880	1.7135 0.8837 0.3132 1.0482 3.3577	1.7432 0.9035 0.2711 0.9597 3.2428	1.7679 0.9199 0.2165 0.8913 3.1484	1.7863 0.9323 0.1510 0.8431 3.0784	1.7976 0.9401 0.0777 0.8148 3.0355	1.8015 0.9427 0.0000 0.8053 3.0208	
0.70	1.6488 0.8409 0.3612 1.2769 3.6321	1.6839 0.8561 0.3454 1.1536 3.4917	1.7170 0.8790 0.3160 1.0461 3.3593	1.7466 0.8989 0.2732 0.9571 3.2413	1.7712 0.9152 0.2179 0.8882 3.1434	1.7896 0.9276 0.1519 0.8396 3.0704	1.8008 0.9353 0.0781 0.8109 3.0255	1.8047 0.9379 0.0000 0.8013 3.0101	
0.75	1.6525 0.8258 0.3649 1.2745 3.6355	1.6874 0.8513 0.3485 1.1514 3.4943	1.7204 0.8743 0.3185 1.0438 3.3598	1.7499 0.8942 0.2751 0.9544 3.2388	1.7744 0.9106 0.2192 0.8849 3.1376	1.7928 0.9229 0.1527 0.8358 3.0617	1.8040 0.9306 0.0784 0.8068 3.0148	1.8079 0.9332 0.0000 0.7971 2.9987	
0.80	1.6562 0.8208 0.3684 1.2719 3.6378	1.6909 0.8455 0.3515 1.1490 3.4959	1.7237 0.8697 0.3208 1.0412 3.3594	1.7532 0.8897 0.2768 0.9514 3.2354	1.7777 0.9060 0.2203 0.8814 3.1310	1.7960 0.9183 0.1533 0.8318 3.0522	1.8073 0.9260 0.0787 0.8024 3.0034	1.8111 0.9286 0.0000 0.7926 2.9867	
0.85	1.6599 0.8159 0.3716 1.2691 3.6391	1.6943 0.8419 0.3542 1.1464 3.4965	1.7270 0.8652 0.3230 1.0385 3.3581	1.7564 0.8852 0.2783 0.9482 3.2312	1.7809 0.9015 0.2213 0.8777 3.1236	1.7992 0.9137 0.1538 0.8275 3.0420	1.8105 0.9213 0.0789 0.7978 2.9913	1.8144 0.9239 0.0000 0.7878 2.9739	
0.90	1.6634 0.8110 0.3747 1.2659 3.6393	1.6977 0.8372 0.3567 1.1436 3.4962	1.7303 0.8607 0.3249 1.0355 3.3558	1.7596 0.8808 0.2796 0.9448 3.2261	1.7841 0.8970 0.2221 0.8737 3.1154	1.8025 0.9091 0.1543 0.8230 3.0310	1.8138 0.9166 0.0791 0.7929 2.9783	1.8177 0.9192 0.0000 0.7828 2.9603	
0.95	1.6670 0.8061 0.3776 1.2625 3.6387	1.7010 0.8327 0.3591 1.1405 3.4950	1.7335 0.8563 0.3267 1.0323 3.3528	1.7628 0.8764 0.2808 0.9412 3.2203	1.7873 0.8925 0.2228 0.8695 3.1064	1.8058 0.9045 0.1547 0.8182 3.0192	1.8172 0.9119 0.0793 0.7877 2.9646	1.8211 0.9144 0.0000 0.7775 2.9459	
1.00	1.6705 0.8014 0.3803 1.2588 3.6370	1.7043 0.8282 0.3613 1.1372 3.4929	1.7366 0.8519 0.3283 1.0289 3.3489	1.7659 0.8720 0.2819 0.9373 3.2136	1.7905 0.8881 0.2235 0.8650 3.0966	1.8091 0.8999 0.1550 0.8132 3.0065	1.8206 0.9072 0.0794 0.7822 2.9500	1.8245 0.9096 0.0000 0.7719 2.9306	
F_x	0.7327	0.7325	0.7316	0.7301	0.7281	0.7262	0.7248	0.7242	

$$M_{\infty} = 5, \beta_K = 30^\circ, \alpha = 15^\circ$$

ξ	θ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.00	1.2289	1.2317	1.2402	1.2543	1.2735	1.2977	1.3261	1.3583	1.3933
	0.7095	0.7111	0.7161	0.7242	0.7353	0.7492	0.7656	0.7842	0.8044
	0.0000	0.0670	0.1325	0.1948	0.2523	0.3035	0.3468	0.3806	0.4032
	2.7229	2.6899	2.5936	2.4420	2.2473	2.0240	1.7875	1.5524	1.3308
	4.7811	4.7396	4.6178	4.4234	4.1685	3.8683	3.5398	3.2005	2.8672
0.05	1.2351	1.2391	1.2512	1.2709	1.2980	1.3316	1.3711	1.4157	1.4642
	0.6988	0.7012	0.7084	0.7202	0.7364	0.7564	0.7800	0.8065	0.8354
	0.0000	0.0710	0.1400	0.2050	0.2642	0.3157	0.3577	0.3886	0.4068
	2.7223	2.6895	2.5939	2.4433	2.2497	2.0276	1.7921	1.5575	1.3361
	4.7804	4.7450	4.6410	4.4747	4.2556	3.9965	3.7118	3.4170	3.1281
0.10	1.2413	1.2456	1.2584	1.2794	1.3080	1.3435	1.3852	1.4319	1.4826
	0.6882	0.6909	0.6988	0.7118	0.7294	0.7514	0.7770	0.8056	0.8365
	0.0000	0.0741	0.1460	0.2136	0.2748	0.3278	0.3706	0.4018	0.4197
	2.7205	2.6879	2.5931	2.4437	2.2514	2.0306	1.7962	1.5624	1.3413
	4.7781	4.7448	4.6471	4.4903	4.2835	4.0382	3.7679	3.4872	3.2111
0.15	1.2475	1.2520	1.2652	1.2869	1.3164	1.3531	1.3959	1.4437	1.4955
	0.6778	0.6807	0.6891	0.7030	0.7219	0.7452	0.7724	0.8026	0.8349
	0.0000	0.0768	0.1513	0.2211	0.2843	0.3386	0.3824	0.4140	0.4321
	2.7175	2.6853	2.5913	2.4431	2.2524	2.0330	1.7999	1.5670	1.3463
	4.7743	4.7428	4.6500	4.5011	4.3042	4.0700	3.8111	3.5411	3.2745
0.20	1.2537	1.2583	1.2718	1.2939	1.3240	1.3614	1.4049	1.4534	1.5057
	0.6675	0.6706	0.6795	0.6942	0.7141	0.7386	0.7671	0.7986	0.8321
	0.0000	0.0793	0.1561	0.2280	0.2929	0.3486	0.3933	0.4255	0.4437
	2.7134	2.6815	2.5884	2.4417	2.2526	2.0349	1.8032	1.5713	1.3512
	4.7692	4.7392	4.6509	4.5089	4.3208	4.0963	3.8473	3.5865	3.3277
0.25	1.2599	1.2645	1.2782	1.3007	1.3312	1.3689	1.4120	1.4617	1.5143
	0.6574	0.6605	0.6700	0.6853	0.7062	0.7318	0.7614	0.7941	0.8286
	0.0000	0.0816	0.1606	0.2345	0.3010	0.3580	0.4035	0.4361	0.4544
	2.7082	2.6766	2.5846	2.4394	2.2520	2.0361	1.8060	1.5754	1.3559
	4.7627	4.7341	4.6499	4.5144	4.3343	4.1189	3.8789	3.6264	3.3743
0.30	1.2661	1.2708	1.2846	1.3072	1.3379	1.3758	1.4200	1.4690	1.5217
	0.6474	0.6507	0.6606	0.6766	0.6983	0.7249	0.7557	0.7894	0.8248
	0.0000	0.0837	0.1648	0.2406	0.3086	0.3668	0.4131	0.4461	0.4645
	2.7019	2.6708	2.5798	2.4362	2.2508	2.0368	1.8085	1.5791	1.3604
	4.7548	4.7276	4.6473	4.5179	4.3455	4.1385	3.9071	3.6623	3.4163
0.35	1.2723	1.2770	1.2909	1.3136	1.3444	1.3824	1.4266	1.4756	1.5282
	0.6376	0.6410	0.6512	0.6679	0.6904	0.7180	0.7498	0.7845	0.8208
	0.0000	0.0858	0.1688	0.2464	0.3159	0.3752	0.4222	0.4556	0.4739
	2.6947	2.6639	2.5741	2.4322	2.2488	2.0370	1.8105	1.5826	1.3648
	4.7456	4.7198	4.6433	4.5197	4.3547	4.1559	3.9326	3.6951	3.4548
0.40	1.2785	1.2832	1.2971	1.3198	1.3506	1.3886	1.4328	1.4817	1.5341
	0.6278	0.6314	0.6420	0.6593	0.6826	0.7112	0.7439	0.7796	0.8168
	0.0000	0.0878	0.1727	0.2519	0.3228	0.3831	0.4309	0.4645	0.4828
	2.6864	2.6561	2.5674	2.4273	2.2462	2.0366	1.8121	1.5858	1.3690
	4.7352	4.7106	4.6378	4.5199	4.3621	4.1713	3.9558	3.7254	3.4904
0.45	1.2847	1.2894	1.3033	1.3259	1.3567	1.3946	1.4386	1.4873	1.5395
	0.6182	0.6219	0.6329	0.6507	0.6749	0.7043	0.7380	0.7746	0.8126
	0.0000	0.0897	0.1764	0.2572	0.3295	0.3908	0.4392	0.4731	0.4912
	2.6771	2.6473	2.5599	2.4217	2.2429	2.0357	1.8134	1.5888	1.3731
	4.7236	4.7002	4.6310	4.5187	4.3679	4.1848	3.9771	3.7535	3.5236
0.50	1.2910	1.2956	1.3094	1.3320	1.3626	1.4003	1.4441	1.4925	1.5444
	0.6086	0.6125	0.6238	0.6423	0.6672	0.6975	0.7322	0.7697	0.8085
	0.0000	0.0915	0.1800	0.2624	0.3359	0.3982	0.4471	0.4812	0.4992
	2.6669	2.6375	2.5515	2.4153	2.2389	2.0342	1.8142	1.5915	1.3770
	4.7107	4.6886	4.6229	4.5161	4.3722	4.1968	3.9967	3.7797	3.5548

$$M_{\infty} = 5, \beta_K = 30^\circ, \alpha = 15^\circ$$

ξ	θ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.55	1.2972 0.5992 0.0000 2.6558 4.6967	1.3018 0.6031 0.0933 2.6269 4.6757	1.3156 0.6149 0.1835 2.5423 4.6135	1.3380 0.6339 0.2673 2.4082 4.5122	1.3684 0.6595 0.3421 2.2343 4.3752	1.4059 0.6908 0.4052 2.0322 4.2073	1.4493 0.7264 0.4547 1.8147 4.0147	1.4974 0.7648 0.4890 1.5939 3.8043	1.5489 0.8044 0.5067 1.3807 3.5842
0.60	1.3035 0.5898 0.0000 2.6138 4.6815	1.3081 0.5939 0.0951 2.6153 4.6617	1.3217 0.6060 0.1868 2.5222 4.6029	1.3439 0.6256 0.2721 2.4003 4.5070	1.3741 0.6520 0.3481 2.2290 4.3768	1.4112 0.6841 0.4121 2.0298 4.2164	1.4543 0.7206 0.4621 1.8148 4.0312	1.5020 0.7600 0.4964 1.5961 3.8274	1.5531 0.8004 0.5139 1.3843 3.6121
0.65	1.3097 0.5805 0.0000 2.6308 4.6651	1.3143 0.5847 0.0967 2.6029 4.6465	1.3278 0.5971 0.1901 2.5212 4.5911	1.3498 0.6173 0.2768 2.3916 4.5005	1.3797 0.6445 0.3539 2.2231 4.3771	1.4165 0.6775 0.4187 2.0268 4.2242	1.4591 0.7149 0.4691 1.8145 4.0464	1.5064 0.7552 0.5035 1.5981 3.8491	1.5570 0.7964 0.5208 1.3878 3.6386
0.70	1.3161 0.5713 0.0000 2.6170 4.6475	1.3206 0.5756 0.0984 2.5896 4.6301	1.3339 0.5884 0.1933 2.5095 4.5781	1.3557 0.6091 0.2813 2.3822 4.4928	1.3852 0.6370 0.3595 2.2166 4.3761	1.4216 0.6709 0.4251 2.0233 4.2307	1.4638 0.7093 0.4760 1.8139 4.0604	1.5106 0.7504 0.5104 1.5998 3.8695	1.5607 0.7925 0.5273 1.3912 3.6638
0.75	1.3224 0.5621 0.0000 2.6022 4.6288	1.3269 0.5665 0.1000 2.5754 4.6125	1.3400 0.5797 0.1964 2.4969 4.5640	1.3615 0.6010 0.2857 2.3721 4.4840	1.3907 0.6296 0.3650 2.2094 4.3739	1.4266 0.6644 0.4314 2.0193 4.2360	1.4683 0.7037 0.4826 1.8129 4.0731	1.5145 0.7458 0.5170 1.6012 3.8888	1.5641 0.7887 0.5335 1.3944 3.6878
0.80	1.3288 0.5529 0.0000 2.5866 4.6089	1.3332 0.5575 0.1015 2.5603 4.5938	1.3462 0.5710 0.1994 2.4835 4.5486	1.3674 0.5929 0.2901 2.3612 4.4739	1.3961 0.6223 0.3703 2.2017 4.3706	1.4315 0.6579 0.4374 2.0148 4.2401	1.4727 0.6981 0.4890 1.8115 4.0846	1.5183 0.7411 0.5234 1.6025 3.9069	1.5673 0.7849 0.5395 1.3975 3.7108
0.85	1.3353 0.5437 0.0000 2.5700 4.5878	1.3396 0.5484 0.1030 2.5444 4.5738	1.3524 0.5623 0.2023 2.4692 4.5320	1.3732 0.5848 0.2943 2.3496 4.4626	1.4015 0.6149 0.3755 2.1932 4.3660	1.4364 0.6514 0.4433 2.0098 4.2430	1.4769 0.6926 0.4952 1.8097 4.0951	1.5220 0.7366 0.5296 1.6034 3.9240	1.5704 0.7812 0.5452 1.4004 3.7327
0.90	1.3418 0.5346 0.0000 2.5525 4.5655	1.3461 0.5394 0.1045 2.5275 4.5527	1.3586 0.5537 0.2052 2.4541 4.5142	1.3791 0.5767 0.2984 2.3372 4.4501	1.4069 0.6076 0.3806 2.1841 4.3602	1.4412 0.6450 0.4490 2.0042 4.2448	1.4811 0.6872 0.5013 1.8075 4.1044	1.5255 0.7321 0.5355 1.6041 3.9400	1.5733 0.7776 0.5508 1.4033 3.7538
0.95	1.3484 0.5255 0.0000 2.5341 4.5420	1.3526 0.5304 0.1060 2.5097 4.5303	1.3649 0.5450 0.2080 2.4382 4.4952	1.3850 0.5687 0.3024 2.3240 4.4363	1.4122 0.6004 0.3856 2.1744 4.3532	1.4459 0.6386 0.4546 1.9981 4.2454	1.4852 0.6817 0.5071 1.8050 4.1126	1.5289 0.7276 0.5413 1.6046 3.9550	1.5760 0.7740 0.5561 1.4059 3.7739
1.00	1.3551 0.5163 0.0000 2.5148 4.5172	1.3592 0.5214 0.1074 2.4911 4.5067	1.3712 0.5364 0.2108 2.4213 4.4749	1.3909 0.5606 0.3063 2.3100 4.4213	1.4176 0.5931 0.3904 2.1639 4.3450	1.4507 0.6323 0.4601 1.9915 4.2448	1.4892 0.6764 0.5129 1.8020 4.1197	1.5322 0.7232 0.5469 1.6048 3.9691	1.5786 0.7706 0.5612 1.4085 3.7931
F_x	0.7349	0.7352	0.7363	0.7381	0.7406	0.7436	0.7470	0.7507	0.7543

$$M_{\infty} = 5, \beta_{\kappa} = 30^{\circ}, \alpha = 15^{\circ}$$

	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.00	1.4302 0.8257 0.4125 1.1321 2.5544	1.4679 0.8475 0.4063 0.9625 2.2748	1.5050 0.8689 0.3814 0.8255 2.0384	1.5394 0.8888 0.3344 0.7221 1.8527	1.5694 0.9061 0.2585 0.6513 1.7209	1.5910 0.9186 0.1634 0.6086 1.6396	1.6021 0.9250 0.0775 0.5871 1.5980	1.8179 1.0496 0.0000 0.5805 2.5497	1.6055 0.9269 0.0000 0.5805 1.5851
0.05	1.5158 0.8659 0.4107 1.1372 2.8600	1.5692 0.8975 0.3986 0.9670 2.6284	1.6236 0.9294 0.3688 0.8290 2.4489	1.6775 0.9611 0.3195 0.7246 2.3381	1.7302 0.9917 0.2521 0.6526 2.3199	1.7779 1.0188 0.1752 0.6091 2.4000	1.8104 1.0370 0.0918 0.5871 2.5047	1.8217 1.0431 0.0000 0.5803 2.5490	
0.10	1.5361 0.8689 0.4232 1.1422 2.9545	1.5911 0.9019 0.4108 0.9714 2.7325	1.6460 0.9345 0.3813 0.8325 2.5598	1.6992 0.9659 0.3337 0.7270 2.4525	1.7486 0.9945 0.2698 0.6540 2.4249	1.7897 1.0176 0.1927 0.6095 2.4674	1.8161 1.0325 0.1021 0.5868 2.5245	1.8250 1.0374 0.0000 0.5798 2.5475	
0.15	1.5498 0.8685 0.4354 1.1472 3.0254	1.6053 0.9022 0.4229 0.9758 2.8084	1.6601 0.9350 0.3937 0.8361 2.6374	1.7123 0.9658 0.3468 0.7294 2.5268	1.7592 0.9929 0.2835 0.6553 2.4861	1.7968 1.0141 0.2040 0.6098 2.5026	1.8202 1.0277 0.1081 0.5864 2.5331	1.8281 1.0323 0.0000 0.5790 2.5451	
0.20	1.5604 0.8665 0.4469 1.1520 3.0342	1.6159 0.9008 0.4342 0.9802 2.8701	1.6704 0.9336 0.4048 0.8396 2.6984	1.7216 0.9639 0.3580 0.7318 2.5822	1.7668 0.9898 0.2941 0.6564 2.5284	1.8021 1.0100 0.2121 0.6099 2.5248	1.8237 1.0231 0.1121 0.5857 2.5372	1.8310 1.0275 0.0000 0.5781 2.5421	
0.25	1.5691 0.8538 0.4575 1.1568 3.1354	1.6244 0.8985 0.4445 0.9846 2.9229	1.6785 0.9313 0.4148 0.8430 2.7492	1.7288 0.9610 0.3675 0.7341 2.6263	1.7727 0.9862 0.3025 0.6575 2.5602	1.8065 1.0058 0.2180 0.6098 2.5401	1.8269 1.0187 0.1149 0.5848 2.5387	1.8337 1.0231 0.0000 0.5769 2.5386	
0.30	1.5764 0.8607 0.4674 1.1615 3.1812	1.6316 0.8957 0.4539 0.9889 2.9695	1.6852 0.9285 0.4236 0.8465 2.7930	1.7348 0.9578 0.3757 0.7364 2.6630	1.7777 0.9825 0.3093 0.6584 2.5852	1.8103 1.0016 0.2226 0.6095 2.5510	1.8298 1.0144 0.1170 0.5838 2.5386	1.8363 1.0188 0.0000 0.5756 2.5345	
0.35	1.5828 0.8574 0.4765 1.1661 3.2230	1.6377 0.8927 0.4625 0.9931 3.0115	1.6908 0.9255 0.4315 0.8499 2.8317	1.7399 0.9544 0.3826 0.7385 2.6944	1.7820 0.9786 0.3148 0.6592 2.6055	1.8138 0.9976 0.2261 0.6091 2.5588	1.8326 1.0103 0.1186 0.5826 2.5372	1.8389 1.0148 0.0000 0.5741 2.5298	
0.40	1.5884 0.8539 0.4850 1.1707 3.2615	1.6430 0.8896 0.4704 0.9973 3.0499	1.6958 0.9223 0.4385 0.8532 2.8665	1.7444 0.9510 0.3886 0.7407 2.7218	1.7858 0.9748 0.3193 0.6600 2.6224	1.8169 0.9936 0.2289 0.6086 2.5645	1.8353 1.0063 0.1198 0.5812 2.5348	1.8414 1.0108 0.0000 0.5725 2.5247	
0.45	1.5935 0.8504 0.4930 1.1751 3.2974	1.6477 0.8864 0.4777 1.0015 3.0855	1.7001 0.9191 0.4448 0.8566 2.8982	1.7483 0.9476 0.3937 0.7427 2.7461	1.7893 0.9711 0.3230 0.6606 2.6366	1.8199 0.9897 0.2311 0.6079 2.5684	1.8379 1.0025 0.1207 0.5797 2.5316	1.8439 1.0070 0.0000 0.5707 2.5191	
0.50	1.5981 0.8469 0.5004 1.1795 3.3311	1.6519 0.8833 0.4843 1.0057 3.1185	1.7039 0.9160 0.4505 0.8599 2.9273	1.7518 0.9442 0.3982 0.7447 2.7679	1.7924 0.9675 0.3261 0.6611 2.6487	1.8227 0.9860 0.2328 0.6071 2.5709	1.8405 0.9987 0.1214 0.5781 2.5276	1.8464 1.0032 0.0000 0.5688 2.5130	

$$M_{\infty} = 5, \beta_{\kappa} = 30^{\circ}, \alpha = 15^{\circ}$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.55	1.6022	1.6557	1.7074	1.7550	1.7954	1.8254	1.8430	1.8489	
	0.8435	0.8801	0.9130	0.9410	0.9640	0.9823	0.9950	0.9995	
	0.5074	0.4904	0.4555	0.4020	0.3286	0.2341	0.1219	0.0000	
	1.1839	1.0099	0.8632	0.7467	0.6615	0.6061	0.5763	0.5667	
	3.3629	3.1498	2.9544	2.7876	2.6590	2.5722	2.5230	2.5064	
0.60	1.6060	1.6591	1.7105	1.7579	1.7981	1.8279	1.8455	1.8513	
	0.8400	0.8771	0.9100	0.9379	0.9607	0.9788	0.9914	0.9958	
	0.5140	0.4961	0.4601	0.4053	0.3307	0.2351	0.1222	0.0000	
	1.1881	1.0140	0.8665	0.7486	0.6618	0.6051	0.5743	0.5645	
	3.3931	3.1792	2.9797	2.8057	2.6680	2.5726	2.5177	2.4993	
0.65	1.6094	1.6622	1.7133	1.7605	1.8006	1.8304	1.8480	1.8538	
	0.8367	0.8742	0.9072	0.9349	0.9574	0.9753	0.9878	0.9922	
	0.5202	0.5013	0.4642	0.4082	0.3324	0.2359	0.1224	0.0000	
	1.1923	1.0181	0.8698	0.7505	0.6621	0.6039	0.5722	0.5620	
	3.4219	3.2071	3.0035	2.8224	2.6758	2.5721	2.5119	2.4916	
0.70	1.6126	1.6650	1.7159	1.7629	1.8030	1.8329	1.8504	1.8563	
	0.8335	0.8713	0.9045	0.9321	0.9543	0.9720	0.9842	0.9886	
	0.5260	0.5062	0.4679	0.4107	0.3337	0.2364	0.1226	0.0000	
	1.1965	1.0223	0.8731	0.7524	0.6623	0.6026	0.5699	0.5595	
	3.4494	3.2338	3.0261	2.8380	2.6826	2.5708	2.5054	2.4835	
0.75	1.6156	1.6676	1.7182	1.7652	1.8053	1.8353	1.8529	1.8588	
	0.8303	0.8686	0.9020	0.9294	0.9514	0.9686	0.9807	0.9850	
	0.5315	0.5107	0.4712	0.4128	0.3347	0.2367	0.1226	0.0000	
	1.2006	1.0264	0.8764	0.7543	0.6624	0.6011	0.5675	0.5567	
	3.4757	3.2594	3.0477	2.8525	2.6886	2.5688	2.4983	2.4747	
0.80	1.6183	1.6699	1.7203	1.7672	1.8075	1.8376	1.8554	1.8613	
	0.8272	0.8660	0.8995	0.9269	0.9485	0.9654	0.9772	0.9814	
	0.5367	0.5149	0.4743	0.4146	0.3355	0.2368	0.1225	0.0000	
	1.2047	1.0305	0.8798	0.7561	0.6625	0.5996	0.5649	0.5538	
	3.5010	3.2839	3.0683	2.8663	2.6939	2.5662	2.4906	2.4654	
0.85	1.6208	1.6720	1.7222	1.7691	1.8096	1.8400	1.8580	1.8640	
	0.8242	0.8635	0.8972	0.9245	0.9458	0.9622	0.9736	0.9777	
	0.5417	0.5189	0.4770	0.4161	0.3361	0.2368	0.1224	0.0000	
	1.2087	1.0347	0.8832	0.7581	0.6625	0.5979	0.5621	0.5506	
	3.5253	3.3077	3.0882	2.8794	2.6986	2.5630	2.4823	2.4553	
0.90	1.6232	1.6740	1.7239	1.7709	1.8115	1.8423	1.8606	1.8666	
	0.8214	0.8611	0.8951	0.9223	0.9431	0.9591	0.9701	0.9740	
	0.5464	0.5225	0.4794	0.4174	0.3364	0.2367	0.1222	0.0000	
	1.2127	1.0389	0.8866	0.7600	0.6625	0.5961	0.5591	0.5472	
	3.5489	3.3306	3.1074	2.8920	2.7027	2.5592	2.4733	2.4446	
0.95	1.6254	1.6757	1.7255	1.7725	1.8134	1.8445	1.8632	1.8694	
	0.8186	0.8589	0.8931	0.9202	0.9406	0.9560	0.9664	0.9702	
	0.5509	0.5259	0.4817	0.4185	0.3366	0.2364	0.1219	0.0000	
	1.2167	1.0431	0.8902	0.7620	0.6625	0.5942	0.5559	0.5436	
	3.5716	3.3529	3.1261	2.9041	2.7064	2.5549	2.4636	2.4331	
1.00	1.6274	1.6773	1.7269	1.7739	1.8152	1.8468	1.8659	1.8723	
	0.8159	0.8568	0.8912	0.9182	0.9382	0.9529	0.9628	0.9663	
	0.5552	0.5292	0.4837	0.4194	0.3366	0.2360	0.1216	0.0000	
	1.2206	1.0474	0.8937	0.7640	0.6625	0.5922	0.5525	0.5398	
	3.5936	3.3746	3.1443	2.9158	2.7098	2.5501	2.4531	2.4206	
F_x	0.7575	0.7596	0.7601	0.7583	0.7541	0.7485	0.7439	0.7421	

$$M_{\infty} = 5, \beta_K = 30^\circ, \alpha = 20^\circ$$

ξ	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.00	1.0816	1.0855	1.0971	1.1163	1.1426	1.1756	1.2147	1.2587	1.3072
	0.6244	0.6267	0.6334	0.6445	0.6597	0.6788	0.7013	0.7267	0.7547
	0.0000	0.0900	0.1781	0.2625	0.3413	0.4127	0.4748	0.5264	0.5644
	3.1376	3.0899	2.9515	2.7354	2.4612	2.1520	1.8317	1.5210	1.2367
0.05	4.9463	4.8925	4.7349	4.4846	4.1587	3.7785	3.3676	2.9489	2.5437
	1.0885	1.0934	1.1082	1.1324	1.1655	1.2067	1.2550	1.3093	1.3686
	0.6126	0.6156	0.6245	0.6391	0.6591	0.6840	0.7133	0.7461	0.7818
	0.0000	0.0935	0.1845	0.2709	0.3503	0.4206	0.4797	0.5258	0.5570
0.10	3.1368	3.0896	2.9525	2.7383	2.4664	2.1595	1.8410	1.5314	1.2476
	4.9455	4.8971	4.7553	4.5289	4.2326	3.8839	3.5038	3.1122	2.7301
	1.0953	1.1006	1.1164	1.1422	1.1775	1.2212	1.2724	1.3298	1.3923
	0.6009	0.6043	0.6142	0.6305	0.6527	0.6803	0.7127	0.7488	0.7879
0.15	0.0000	0.0965	0.1904	0.2790	0.3600	0.4309	0.4896	0.5342	0.5631
	3.1347	3.0880	2.9523	2.7402	2.4708	2.1663	1.8498	1.5416	1.2582
	4.9430	4.8974	4.7632	4.5488	4.2672	3.9346	3.5707	3.1939	2.8243
	1.1022	1.1077	1.1241	1.1510	1.1875	1.2328	1.2858	1.3450	1.4092
0.20	0.5894	0.5931	0.6038	0.6215	0.6455	0.6754	0.7102	0.7490	0.7907
	0.0000	0.0994	0.1959	0.2868	0.3693	0.4411	0.4999	0.5439	0.5714
	3.1311	3.0850	2.9509	2.7411	2.4743	2.1725	1.8582	1.5515	1.2688
	4.9390	4.8956	4.7682	4.5641	4.2953	3.9768	3.6269	3.2630	2.9041
0.25	1.1091	1.1147	1.1316	1.1591	1.1965	1.2428	1.2969	1.3572	1.4225
	0.5782	0.5820	0.5935	0.6124	0.6381	0.6699	0.7068	0.7479	0.7919
	0.0000	0.1021	0.2012	0.2942	0.3784	0.4512	0.5104	0.5541	0.5806
	3.1262	3.0807	2.9482	2.7410	2.4771	2.1781	1.8662	1.5613	1.2793
0.30	4.9335	4.8923	4.7710	4.5764	4.3195	4.0141	3.6771	3.3251	2.9761
	1.1159	1.1217	1.1388	1.1667	1.2048	1.2517	1.3065	1.3674	1.4333
	0.5670	0.5711	0.5834	0.6033	0.6305	0.6641	0.7030	0.7462	0.7921
	0.0000	0.1048	0.2063	0.3015	0.3873	0.4612	0.5208	0.5644	0.5902
0.35	3.1201	3.0752	2.9445	2.7398	2.4791	2.1831	1.8739	1.5708	1.2899
	4.9266	4.8874	4.7720	4.5865	4.3409	4.0480	3.7234	3.3826	3.0430
	1.1228	1.1286	1.1459	1.1741	1.2125	1.2599	1.3150	1.3763	1.4424
	0.5561	0.5604	0.5733	0.5943	0.6229	0.6581	0.6989	0.7440	0.7916
0.40	0.0000	0.1073	0.2113	0.3085	0.3960	0.4710	0.5312	0.5746	0.6000
	3.1127	3.0684	2.9396	2.7378	2.4803	2.1876	1.8813	1.5803	1.3004
	4.9182	4.8810	4.7713	4.5946	4.3601	4.0793	3.7667	3.4369	3.1062
	1.1296	1.1355	1.1529	1.1813	1.2198	1.2674	1.3226	1.3840	1.4502
0.45	0.5452	0.5498	0.5633	0.5853	0.6153	0.6521	0.6947	0.7415	0.7909
	0.0000	0.1098	0.2161	0.3154	0.4045	0.4806	0.5413	0.5848	0.6097
	3.1041	3.0605	2.9337	2.7348	2.4808	2.1916	1.8883	1.5896	1.3110
	4.9085	4.8733	4.7691	4.6010	4.3773	4.1085	3.8078	3.4887	3.1667
0.50	1.1365	1.1423	1.1598	1.1882	1.2268	1.2744	1.3296	1.3909	1.4568
	0.5346	0.5393	0.5534	0.5764	0.6077	0.6461	0.6903	0.7389	0.7898
	0.0000	0.1123	0.2209	0.3222	0.4129	0.4901	0.5514	0.5949	0.6193
	3.0943	3.0515	2.9267	2.7309	2.4805	2.1951	1.8951	1.5988	1.3216
0.55	4.8975	4.8641	4.7654	4.6059	4.3928	4.1358	3.8469	3.5385	3.2249
	1.1433	1.1492	1.1666	1.1950	1.2336	1.2810	1.3360	1.3970	1.4626
	0.5240	0.5289	0.5437	0.5676	0.6001	0.6400	0.6859	0.7361	0.7886
	0.0000	0.1147	0.2255	0.3288	0.4211	0.4994	0.5613	0.6048	0.6287
0.60	3.0834	3.0413	2.9187	2.7261	2.4796	2.1981	1.9015	1.6079	1.3323
	4.8852	4.8536	4.7604	4.6093	4.4068	4.1616	3.8843	3.5866	3.2814
	1.1502	1.1560	1.1734	1.2017	1.2400	1.2872	1.3419	1.4025	1.4676
	0.5135	0.5187	0.5340	0.5589	0.5926	0.6340	0.6815	0.7333	0.7873
0.65	0.0000	0.1171	0.2301	0.3354	0.4292	0.5086	0.5710	0.6146	0.6380
	3.0714	3.0301	2.9097	2.7205	2.4780	2.2006	1.9077	1.6170	1.3432
	4.8715	4.8419	4.7540	4.6113	4.4194	4.1859	3.9204	3.6332	3.3365

$$M_{\infty} = 5, \beta_{\kappa} = 30^{\circ}, \alpha = 20^{\circ}$$

ξ	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.55	1.1571 0.5032 0.0000 3.0582 4.8566	1.1629 0.5085 0.1194 3.0178 4.8288	1.1802 0.5244 0.2347 2.8997 4.7463	1.2083 0.5502 0.3418 2.7141 4.6120	1.2463 0.5852 0.4372 2.4757 4.4306	1.2932 0.6280 0.5176 2.2026 4.2088	1.3474 0.6771 0.5806 1.9136 3.9551	1.4075 0.7305 0.6242 1.6259 3.6786	1.4720 0.7859 0.6471 1.3541 3.3903
0.60	1.1640 0.4929 0.0000 3.0440 4.8405	1.1698 0.4985 0.1217 3.0044 4.8145	1.1869 0.5149 0.2391 2.8888 4.7373	1.2148 0.5416 0.3482 2.7068 4.6113	1.2525 0.5778 0.4450 2.4728 4.4406	1.2988 0.6220 0.5265 2.2042 4.2306	1.3525 0.6727 0.5900 1.9193 3.9887	1.4120 0.7276 0.6336 1.6348 3.7229	1.4758 0.7845 0.6560 1.3651 3.4430
0.65	1.1710 0.4827 0.0000 3.0287 4.8231	1.1767 0.4884 0.1240 2.9900 4.7990	1.1936 0.5054 0.2435 2.8769 4.7271	1.2211 0.5331 0.3544 2.6986 4.6094	1.2584 0.5705 0.4527 2.4692 4.4493	1.3042 0.6161 0.5353 2.2053 4.2511	1.3573 0.6683 0.5993 1.9247 4.0212	1.4161 0.7248 0.6429 1.6437 3.7663	1.4791 0.7831 0.6647 1.3762 3.4949
0.70	1.1780 0.4726 0.0000 3.0124 4.8045	1.1836 0.4785 0.1262 2.9745 4.7822	1.2003 0.4961 0.2478 2.8640 4.7156	1.2275 0.5246 0.3606 2.6897 4.6063	1.2643 0.5632 0.4604 2.4649 4.4568	1.3095 0.6102 0.5439 2.2059 4.2705	1.3618 0.6639 0.6084 1.9298 4.0526	1.4198 0.7219 0.6519 1.6524 3.8087	1.4820 0.7816 0.6732 1.3874 3.5459
0.75	1.1851 0.4625 0.0000 2.9950 4.7847	1.1906 0.4686 0.1284 2.9581 4.7641	1.2070 0.4867 0.2521 2.8502 4.7029	1.2338 0.5162 0.3666 2.6799 4.6019	1.2700 0.5559 0.4679 2.4600 4.4631	1.3145 0.6043 0.5525 2.2061 4.2889	1.3660 0.6595 0.6174 1.9347 4.0831	1.4231 0.7191 0.6609 1.6611 3.8503	1.4845 0.7802 0.6815 1.3987 3.5962
0.80	1.1922 0.4525 0.0000 2.9765 4.7636	1.1976 0.4588 0.1306 2.9405 4.7449	1.2138 0.4774 0.2563 2.8354 4.6889	1.2401 0.5078 0.3726 2.6693 4.5963	1.2756 0.5487 0.4753 2.4544 4.4682	1.3194 0.5985 0.5608 2.2058 4.3061	1.3700 0.6552 0.6262 1.9393 4.1127	1.4262 0.7163 0.6696 1.6698 3.8912	1.4866 0.7789 0.6896 1.4102 3.6459
0.85	1.1994 0.4424 0.0000 2.9569 4.7412	1.2047 0.4489 0.1327 2.9220 4.7243	1.2205 0.4682 0.2605 2.8197 4.6737	1.2463 0.4994 0.3786 2.6578 4.5895	1.2812 0.5415 0.4826 2.4481 4.4721	1.3241 0.5927 0.5691 2.2050 4.3222	1.3738 0.6509 0.6349 1.9436 4.1413	1.4290 0.7135 0.6782 1.6784 3.9313	1.4884 0.7776 0.6975 1.4217 3.6951
0.90	1.2067 0.4324 0.0000 2.9363 4.7175	1.2119 0.4391 0.1348 2.9023 4.7025	1.2273 0.4589 0.2646 2.8029 4.6572	1.2526 0.4910 0.3844 2.6454 4.5814	1.2867 0.5343 0.4899 2.4411 4.4748	1.3287 0.5869 0.5773 2.2036 4.3373	1.3774 0.6466 0.6435 1.9476 4.1691	1.4315 0.7108 0.6866 1.6868 3.9707	1.4899 0.7763 0.7052 1.4334 3.7436
0.95	1.2140 0.4224 0.0000 2.9146 4.6926	1.2191 0.4293 0.1369 2.8816 4.6793	1.2342 0.4497 0.2686 2.7852 4.6393	1.2588 0.4827 0.3902 2.6322 4.5720	1.2922 0.5271 0.4970 2.4334 4.4763	1.3332 0.5811 0.5853 2.2018 4.3513	1.3809 0.6424 0.6519 1.9513 4.1959	1.4338 0.7081 0.6949 1.6952 4.0094	1.4911 0.7750 0.7128 1.4451 3.7917
1.00	1.2214 0.4124 0.0000 2.8917 4.6663	1.2264 0.4195 0.1390 2.8598 4.6548	1.2411 0.4404 0.2726 2.7664 4.6201	1.2651 0.4743 0.3959 2.6180 4.5612	1.2976 0.5199 0.5040 2.4249 4.4766	1.3376 0.5753 0.5933 2.1994 4.3642	1.3841 0.6381 0.6603 1.9547 4.2218	1.4360 0.7054 0.7030 1.7035 4.0474	1.4920 0.7738 0.7201 1.4570 3.8394
F_x	0.7473	0.7480	0.7499	0.7531	0.7576	0.7634	0.7704	0.7785	0.7872

$$M_{\infty} = 5, \beta_{\kappa} = 30^{\circ}, \alpha = 20^{\circ}$$

ξ	θ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.00	1.3581 0.7841 0.5896 0.9895 2.1691	1.4117 0.8151 0.5949 0.7851 1.8387	1.4638 0.8451 0.5855 0.6249 1.5622	1.5167 0.8757 0.5413 0.5083 1.3479	1.5619 0.9017 0.4725 0.4346 1.2053	1.6010 0.9243 0.3418 0.4004 1.1366	1.6243 0.9377 0.1843 0.3918 1.1077	1.8639 1.0761 0.0000 0.3915 2.0037	1.6317 0.9421 0.0000 0.3915 1.1186
0.05	1.4311 0.8194 0.5718 1.0000 2.3727	1.4967 0.8584 0.5680 0.7915 2.0587	1.5619 0.8971 0.5425 0.6329 1.7932	1.6299 0.9367 0.4912 0.5142 1.6073	1.6928 0.9741 0.4050 0.4385 1.4935	1.7594 1.0147 0.2620 0.4021 1.5210	1.8364 1.0559 0.1330 0.3921 1.8241	1.8674 1.0701 0.0000 0.3913 2.0031	
0.10	1.4582 0.8289 0.5746 1.0104 2.4779	1.5267 0.8707 0.5670 0.8038 2.1710	1.5959 0.9123 0.5378 0.6405 1.9161	1.6657 0.9532 0.4847 0.5199 1.7353	1.7313 0.9925 0.3963 0.4419 1.6409	1.7961 1.0307 0.2755 0.4036 1.7033	1.8505 1.0578 0.1514 0.3923 1.9024	1.8700 1.0657 0.0000 0.3910 2.0019	
0.15	1.4770 0.8342 0.5810 1.0207 2.5664	1.5470 0.8779 0.5713 0.8131 2.2655	1.6177 0.9209 0.5405 0.6482 2.0159	1.6877 0.9620 0.4864 0.5256 1.8369	1.7531 1.0005 0.4011 0.4454 1.7485	1.8130 1.0345 0.2898 0.4051 1.7992	1.8571 1.0560 0.1614 0.3925 1.9372	1.8721 1.0624 0.0000 0.3906 2.0003	
0.20	1.4912 0.8372 0.5889 1.0311 2.6459	1.5620 0.8825 0.5777 0.8226 2.3497	1.6332 0.9262 0.5458 0.6561 2.1027	1.7028 0.9669 0.4913 0.5314 1.9222	1.7672 1.0038 0.4086 0.4490 1.8301	1.8232 1.0344 0.3009 0.4067 1.8604	1.8613 1.0535 0.1673 0.3926 1.9567	1.8737 1.0597 0.0000 0.3901 1.9986	
0.25	1.5025 0.8391 0.5974 1.0416 2.7195	1.5735 0.8855 0.5850 0.8322 2.4271	1.6447 0.9296 0.5522 0.6642 2.1807	1.7138 0.9697 0.4972 0.5375 1.9962	1.7771 1.0048 0.4161 0.4527 1.8952	1.8301 1.0329 0.3091 0.4083 1.9038	1.8644 1.0510 0.1710 0.3927 1.9688	1.8752 1.0573 0.0000 0.3896 1.9967	
0.30	1.5117 0.8402 0.6062 1.0523 2.7889	1.5827 0.8875 0.5927 0.8421 2.4995	1.6536 0.9319 0.5589 0.6725 2.2523	1.7221 0.9712 0.5033 0.5438 2.0620	1.7843 1.0046 0.4227 0.4565 1.9493	1.8352 1.0308 0.3151 0.4098 1.9365	1.8668 1.0485 0.1733 0.3927 1.9768	1.8766 1.0551 0.0000 0.3890 1.9946	
0.35	1.5193 0.8408 0.6150 1.0631 2.8552	1.5901 0.8890 0.6004 0.8522 2.5682	1.6606 0.9335 0.5655 0.6812 2.3192	1.7285 0.9721 0.5090 0.5503 2.1218	1.7899 1.0038 0.4282 0.4605 1.9958	1.8392 1.0285 0.3194 0.4113 1.9624	1.8689 1.0462 0.1748 0.3926 1.9823	1.8779 1.0531 0.0000 0.3884 1.9924	
0.40	1.5267 0.8410 0.6238 1.0741 2.9191	1.5961 0.8901 0.6080 0.8626 2.6340	1.6661 0.9347 0.5718 0.6901 2.3824	1.7334 0.9726 0.5142 0.5570 2.1768	1.7942 1.0028 0.4327 0.4646 2.0368	1.8423 1.0263 0.3225 0.4129 1.9837	1.8707 1.0440 0.1756 0.3924 1.9860	1.8791 1.0512 0.0000 0.3877 1.9900	
0.45	1.5310 0.8410 0.6323 1.0853 2.9810	1.6010 0.8909 0.6154 0.8733 2.6974	1.6704 0.9356 0.5778 0.6993 2.4427	1.7372 0.9729 0.5188 0.5640 2.2284	1.7975 1.0018 0.4363 0.4688 2.0737	1.8450 1.0242 0.3246 0.4144 2.0016	1.8723 1.0419 0.1759 0.3922 1.9885	1.8803 1.0494 0.0000 0.3870 1.9873	
0.50	1.5355 0.8409 0.6407 1.0968 3.0413	1.6049 0.8916 0.6225 0.8842 2.7589	1.6737 0.9365 0.5834 0.7089 2.5006	1.7401 0.9732 0.5229 0.5713 2.2772	1.8001 1.0008 0.4391 0.4732 2.1077	1.8472 1.0222 0.3259 0.4159 2.0172	1.8738 1.0399 0.1760 0.3919 1.9900	1.8815 1.0476 0.0000 0.3862 1.9845	

$$M_{\infty} = 5, \beta_K = 30^\circ, \alpha = 20^\circ$$

$\frac{1}{\sin \theta}$	θ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.55	1.5393 0.8408 0.6489 1.1084 3.1002	1.6080 0.8922 0.6293 0.8955 2.8189	1.6763 0.9373 0.5886 0.7187 2.5568	1.7422 0.9735 0.5264 0.5789 2.3239	1.8021 1.0001 0.4412 0.4777 2.1395	1.8490 1.0204 0.3266 0.4174 2.0310	1.8753 1.0380 0.1758 0.3916 1.9907	1.8827 1.0458 0.0000 0.3854 1.9814	
0.60	1.5424 0.8405 0.6568 1.1203 3.1581	1.6104 0.8927 0.6358 0.9071 2.8777	1.6781 0.9381 0.5934 0.7290 2.6114	1.7437 0.9740 0.5294 0.5868 2.3690	1.8036 0.9995 0.4427 0.4825 2.1697	1.8506 1.0188 0.3268 0.4190 2.0436	1.8767 1.0361 0.1754 0.3912 1.9909	1.8840 1.0440 0.0000 0.3844 1.9779	
0.65	1.5449 0.8403 0.6644 1.1324 3.2151	1.6122 0.8933 0.6420 0.9190 2.9355	1.6793 0.9391 0.5978 0.7395 2.6650	1.7446 0.9747 0.5320 0.5951 2.4130	1.8046 0.9992 0.4437 0.4875 2.1988	1.8519 1.0174 0.3265 0.4206 2.0553	1.8780 1.0342 0.1748 0.3907 1.9905	1.8853 1.0422 0.0000 0.3834 1.9742	
0.70	1.5470 0.8401 0.6718 1.1448 3.2713	1.6135 0.8939 0.6479 0.9312 2.9924	1.6800 0.9401 0.6018 0.7505 2.7177	1.7450 0.9755 0.5341 0.6036 2.4562	1.8052 0.9992 0.4442 0.4928 2.2272	1.8530 1.0162 0.3259 0.4223 2.0663	1.8794 1.0324 0.1741 0.3902 1.9896	1.8866 1.0404 0.0000 0.3823 1.9701	
0.75	1.5486 0.8399 0.6790 1.1574 3.3268	1.6144 0.8947 0.6535 0.9438 3.0487	1.6803 0.9412 0.6056 0.7618 2.7697	1.7450 0.9765 0.5359 0.6126 2.4988	1.8054 0.9995 0.4443 0.4983 2.2553	1.8538 1.0152 0.3250 0.4241 2.0770	1.8807 1.0307 0.1733 0.3896 1.9883	1.8880 1.0384 0.0000 0.3811 1.9655	
0.80	1.5498 0.8398 0.6859 1.1703 3.3818	1.6148 0.8954 0.6588 0.9567 3.1045	1.6801 0.9425 0.6090 0.7734 2.8213	1.7446 0.9778 0.5373 0.6219 2.5412	1.8053 1.0000 0.4440 0.5042 2.2833	1.8545 1.0145 0.3239 0.4260 2.0876	1.8820 1.0289 0.1723 0.3889 1.9866	1.8895 1.0364 0.0000 0.3797 1.9605	
0.85	1.5506 0.8397 0.6926 1.1834 3.4363	1.6148 0.8963 0.6639 0.9699 3.1599	1.6795 0.9440 0.6121 0.7855 2.8726	1.7438 0.9793 0.5384 0.6316 2.5834	1.8048 1.0009 0.4435 0.5104 2.3115	1.8550 1.0139 0.3225 0.4281 2.0982	1.8834 1.0271 0.1713 0.3881 1.9845	1.8910 1.0344 0.0000 0.3782 1.9548	
0.90	1.5511 0.8397 0.6991 1.1968 3.4905	1.6145 0.8973 0.6687 0.9835 3.2150	1.6786 0.9455 0.6150 0.7979 2.9237	1.7426 0.9810 0.5393 0.6417 2.6257	1.8040 1.0020 0.4427 0.5170 2.3400	1.8553 1.0136 0.3209 0.4304 2.1090	1.8847 1.0253 0.1701 0.3873 1.9820	1.8927 1.0321 0.0000 0.3765 1.9485	
0.95	1.5513 0.8397 0.7054 1.2104 3.5443	1.6138 0.8983 0.6733 0.9975 3.2698	1.6774 0.9473 0.6176 0.8108 2.9747	1.7411 0.9830 0.5399 0.6522 2.6682	1.8029 1.0035 0.4416 0.5239 2.3691	1.8554 1.0135 0.3191 0.4329 2.1204	1.8861 1.0235 0.1689 0.3864 1.9791	1.8945 1.0298 0.0000 0.3745 1.9414	
1.00	1.5513 0.8398 0.7115 1.2243 3.5978	1.6129 0.8995 0.6777 1.0117 3.3246	1.6759 0.9491 0.6200 0.8240 3.0258	1.7394 0.9851 0.5404 0.6631 2.7110	1.8014 1.0052 0.4404 0.5313 2.3989	1.8552 1.0137 0.3171 0.4356 2.1323	1.8875 1.0217 0.1675 0.3854 1.9759	1.8965 1.0272 0.0000 0.3724 1.9333	
F_x	0.7963	0.8047	0.8114	1.8144	0.8117	0.8010	0.7867	0.7802	

$$M_{\infty} = 5, \beta_{\kappa} = 35^{\circ}, \alpha = 5^{\circ}$$

σ	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.00	1. 2767 0. 8939 0. 0000 2. 3368 4. 5808	1. 2776 0. 8946 0. 0214 2. 3276 4. 5670	1. 2804 0. 8965 0. 0420 2. 3006 4. 5300	1. 2849 0. 8997 0. 0611 2. 2572 4. 4687	1. 2911 0. 9040 0. 0780 2. 1998 4. 3872	1. 2986 0. 9093 0. 0921 2. 1313 4. 2892	1. 3073 0. 9154 0. 1028 2. 0551 4. 1792	1. 3169 0. 9221 0. 1096 1. 9750 4. 0621	1. 3270 0. 9292 0. 1122 1. 8943 3. 9429
0.05	1. 2830 0. 8850 0. 0000 2. 3363 4. 5801	1. 2848 0. 8863 0. 0212 2. 3272 4. 5719	1. 2903 0. 8902 0. 0476 2. 3002 4. 5478	1. 2992 0. 8966 0. 0699 2. 2509 4. 5094	1. 3114 0. 9053 0. 0884 2. 1995 4. 4590	1. 3264 0. 9160 0. 1043 2. 1312 4. 3997	1. 3439 0. 9284 0. 1163 2. 0551 4. 3352	1. 3633 0. 9422 0. 1240 1. 9750 4. 2693	1. 3840 0. 9569 0. 1270 1. 8944 4. 2059
0.10	1. 2892 0. 8763 0. 0000 2. 3348 4. 5779	1. 2911 0. 8777 0. 0261 2. 3257 4. 5702	1. 2967 0. 8817 0. 0512 2. 2988 4. 5475	1. 3058 0. 8884 0. 0745 2. 2556 4. 5113	1. 3183 0. 8974 0. 0952 2. 1984 4. 4635	1. 3336 0. 9085 0. 1124 2. 1302 4. 4071	1. 3513 0. 9213 0. 1256 2. 0543 4. 3454	1. 3709 0. 9354 0. 1341 1. 9743 4. 2820	1. 3917 0. 9504 0. 1376 1. 8938 4. 2203
0.15	1. 2954 0. 8677 0. 0000 2. 3323 4. 5745	1. 2973 0. 8691 0. 0275 2. 3232 4. 5671	1. 3030 0. 8733 0. 0540 2. 2965 4. 5454	1. 3122 0. 8801 0. 0786 2. 2534 4. 5106	1. 3248 0. 8894 0. 1004 2. 1965 4. 4647	1. 3402 0. 9008 0. 1187 2. 1285 4. 4104	1. 3581 0. 9139 0. 1327 2. 0528 4. 3507	1. 3777 0. 9283 0. 1418 1. 9729 4. 2888	1. 3984 0. 9435 0. 1457 1. 8925 4. 2282
0.20	1. 3016 0. 8592 0. 0000 2. 3289 4. 5697	1. 3035 0. 8607 0. 0287 2. 3199 4. 5626	1. 3092 0. 8650 0. 0563 2. 2932 4. 5417	1. 3185 0. 8720 0. 0820 2. 2504 4. 5081	1. 3311 0. 8815 0. 1049 2. 1937 4. 4638	1. 3466 0. 8931 0. 1239 2. 1259 4. 4111	1. 3644 0. 9065 0. 1386 2. 0504 4. 3529	1. 3840 0. 9211 0. 1482 1. 9708 4. 2924	1. 4047 0. 9365 0. 1523 1. 8905 4. 2325
0.25	1. 3077 0. 8511 0. 0000 2. 3247 4. 5637	1. 3096 0. 8525 0. 0297 2. 3157 4. 5569	1. 3153 0. 8569 0. 0584 2. 2892 4. 5367	1. 3246 0. 8611 0. 0850 2. 2466 4. 5042	1. 3373 0. 8737 0. 1087 2. 1901 4. 4611	1. 3527 0. 8856 0. 1285 2. 1226 4. 4099	1. 3706 0. 8991 0. 1437 2. 0474 4. 3530	1. 3901 0. 9140 0. 1537 1. 9680 4. 2936	1. 4107 0. 9296 0. 1580 1. 8879 4. 2344
0.30	1. 3138 0. 8430 0. 0000 2. 3196 4. 5566	1. 3157 0. 8445 0. 0307 2. 3106 4. 5500	1. 3214 0. 8490 0. 0602 2. 2843 4. 5304	1. 3307 0. 8562 0. 0877 2. 2419 4. 4989	1. 3433 0. 8661 0. 1121 2. 1857 4. 4570	1. 3588 0. 8781 0. 1325 2. 1186 4. 4070	1. 3765 0. 8919 0. 1482 2. 0437 4. 3514	1. 3960 0. 9069 0. 1585 1. 9646 4. 2929	1. 4165 0. 9227 0. 1630 1. 8846 4. 2343
0.35	1. 3198 0. 8350 0. 0000 2. 3137 4. 5483	1. 3217 0. 8366 0. 0315 2. 3048 4. 5419	1. 3274 0. 8411 0. 0619 2. 2786 4. 5229	1. 3367 0. 8485 0. 0901 2. 2365 4. 4923	1. 3493 0. 8585 0. 1152 2. 1807 4. 4516	1. 3647 0. 8707 0. 1362 2. 1139 4. 4028	1. 3824 0. 8847 0. 1523 2. 0393 4. 3482	1. 4018 0. 9000 0. 1628 1. 9605 4. 2906	1. 4222 0. 9159 0. 1674 1. 8808 4. 2325
0.40	1. 3258 0. 8272 0. 0000 2. 3070 4. 5390	1. 3277 0. 8288 0. 0323 2. 2982 4. 5327	1. 3334 0. 8334 0. 0634 2. 2722 4. 5143	1. 3427 0. 8410 0. 0923 2. 2304 4. 4845	1. 3552 0. 8511 0. 1180 2. 1749 4. 4449	1. 3705 0. 8635 0. 1395 2. 1085 4. 3972	1. 3882 0. 8777 0. 1559 2. 0343 4. 3437	1. 4074 0. 8931 0. 1667 1. 9559 4. 2869	1. 4277 0. 9092 0. 1714 1. 8764 4. 2293
0.45	1. 3318 0. 8195 0. 0000 2. 2996 4. 5286	1. 3337 0. 8211 0. 0330 2. 2909 4. 5225	1. 3394 0. 8258 0. 0648 2. 2651 4. 5046	1. 3486 0. 8335 0. 0944 2. 2236 4. 4757	1. 3610 0. 8438 0. 1206 2. 1684 4. 4370	1. 3763 0. 8564 0. 1425 2. 1024 4. 3904	1. 3938 0. 8707 0. 1593 2. 0287 4. 3380	1. 4130 0. 8864 0. 1703 1. 9506 4. 2819	1. 4331 0. 9027 0. 1750 1. 8714 4. 2248
0.50	1. 3378 0. 8120 0. 0000 2. 2915 4. 5171	1. 3397 0. 8136 0. 0337 2. 2828 4. 5113	1. 3453 0. 8184 0. 0661 2. 2572 4. 4939	1. 3545 0. 8261 0. 0963 2. 2161 4. 4657	1. 3668 0. 8366 0. 1230 2. 1613 4. 4281	1. 3820 0. 8493 0. 1453 2. 0958 4. 3825	1. 3994 0. 8639 0. 1624 2. 0225 4. 3310	1. 4185 0. 8797 0. 1736 1. 9448 4. 2758	1. 4385 0. 8962 0. 1783 1. 8660 4. 2192

$$M_{\infty} = 5, \beta_k = 35^\circ, \alpha = 5^\circ$$

ξ	θ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.55	1.3437 0.8045 0.0000 2.2827 4.5047	1.3456 0.8062 0.0343 2.2741 4.4990	1.3512 0.8110 0.0673 2.2487 4.4821	1.3603 0.8189 0.0980 2.2079 4.4548	1.3726 0.8295 0.1252 2.1536 4.4181	1.3877 0.8424 0.1479 2.0885 4.3735	1.4050 0.8572 0.1653 2.0157 4.3230	1.4239 0.8732 0.1766 1.9384 4.2685	1.4438 0.8898 0.1814 1.8600 4.2123
0.60	1.3497 0.7972 0.0000 2.2732 4.4913	1.3515 0.7988 0.0349 2.2647 4.4858	1.3571 0.8038 0.0685 2.2396 4.4694	1.3661 0.8117 0.0997 2.1991 4.4428	1.3783 0.8225 0.1273 2.1453 4.4070	1.3933 0.8356 0.1504 2.0807 4.3635	1.4105 0.8505 0.1680 2.0083 4.3139	1.4293 0.8667 0.1794 1.9315 4.2602	1.4490 0.8835 0.1814 1.8535 4.2045
0.65	1.3556 0.7899 0.0000 2.2630 4.4770	1.3575 0.7916 0.0354 2.2546 4.4716	1.3630 0.7966 0.0696 2.2297 4.4557	1.3719 0.8047 0.1012 2.1896 4.4299	1.3841 0.8156 0.1293 2.1363 4.3950	1.3989 0.8288 0.1527 2.0722 4.3525	1.4160 0.8439 0.1705 2.0004 4.3038	1.4346 0.8603 0.1820 1.9241 4.2508	1.4542 0.8773 0.1868 1.8465 4.1956
0.70	1.3615 0.7827 0.0000 2.2522 4.4617	1.3634 0.7844 0.0359 2.2439 4.4565	1.3688 0.7895 0.0706 2.2193 4.4411	1.3777 0.7977 0.1027 2.1796 4.4160	1.3898 0.8087 0.1311 2.1267 4.3820	1.4045 0.8221 0.1548 2.0632 4.3404	1.4214 0.8374 0.1728 1.9920 4.2927	1.4399 0.8540 0.1845 1.9162 4.2404	1.4594 0.8711 0.1893 1.8390 4.1857
0.75	1.3675 0.7756 0.0000 2.2408 4.4455	1.3693 0.7773 0.0364 2.2325 4.4405	1.3747 0.7825 0.0715 2.2082 4.4255	1.3835 0.7908 0.1041 2.1689 4.4012	1.3955 0.8020 0.1329 2.1166 4.3681	1.4101 0.8155 0.1568 2.0537 4.3275	1.4269 0.8310 0.1750 1.9830 4.2806	1.4452 0.8477 0.1868 1.9078 4.2291	1.4645 0.8651 0.1915 1.8311 4.1749
0.80	1.3735 0.7685 0.0000 2.2287 4.4284	1.3753 0.7703 0.0369 2.2206 4.4235	1.3806 0.7755 0.0725 2.1965 4.4090	1.3894 0.7839 0.1054 2.1576 4.3854	1.4012 0.7952 0.1345 2.1059 4.3532	1.4156 0.8090 0.1587 2.0436 4.3136	1.4323 0.8246 0.1771 1.9736 4.2676	1.4505 0.8415 0.1890 1.8989 4.2169	1.4696 0.8591 0.1937 1.8227 4.1632
0.85	1.3794 0.7615 0.0000 2.2160 4.4103	1.3812 0.7633 0.0373 2.2079 4.4056	1.3865 0.7686 0.0733 2.1842 4.3916	1.3952 0.7771 0.1067 2.1458 4.3687	1.4069 0.7886 0.1361 2.0946 4.3374	1.4212 0.8025 0.1606 2.0329 4.2987	1.4377 0.8183 0.1791 1.9635 4.2537	1.4558 0.8354 0.1910 1.8895 4.2037	1.4747 0.8531 0.1957 1.8138 4.1505
0.90	1.3854 0.7546 0.0000 2.2026 4.3913	1.3872 0.7564 0.0378 2.1947 4.3868	1.3925 0.7617 0.0742 2.1712 4.3732	1.4010 0.7704 0.1078 2.1333 4.3510	1.4126 0.7820 0.1376 2.0827 4.3207	1.4268 0.7960 0.1623 2.0217 4.2829	1.4431 0.8120 0.1810 1.9530 4.2388	1.4610 0.8293 0.1929 1.8796 4.1896	1.4799 0.8472 0.1976 1.8045 4.1370
0.95	1.3915 0.7477 0.0000 2.1887 4.3714	1.3932 0.7495 0.0382 2.1808 4.3670	1.3984 0.7549 0.0750 2.1576 4.3539	1.4069 0.7636 0.1090 2.1202 4.3324	1.4183 0.7754 0.1390 2.0702 4.3030	1.4324 0.7896 0.1639 2.0099 4.2662	1.4486 0.8058 0.1827 1.9419 4.2230	1.4663 0.8232 0.1947 1.8691 4.1746	1.4850 0.8413 0.1994 1.7946 4.1225
1.00	1.3976 0.7408 0.0000 2.1740 4.3505	1.3993 0.7426 0.0386 2.1663 4.3462	1.4044 0.7481 0.0757 2.1434 4.3336	1.4128 0.7569 0.1101 2.1065 4.3129	1.4241 0.7688 0.1404 2.0571 4.2843	1.4380 0.7832 0.1655 1.9975 4.2485	1.4541 0.7996 0.1844 1.9303 4.2062	1.4716 0.8172 0.1965 1.8582 4.1586	1.4901 0.8354 0.2011 1.7843 4.1071
F_x	0.8871	0.8870	0.8869	0.8866	0.8862	0.8856	0.8848	0.8839	0.8827

$$M_{\infty} = 5, \beta_k = 35^{\circ}, \alpha = 5^{\circ}$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.00	1.3372	1.3471	1.3563	1.3644	1.3711	1.3761	1.3791	1.4949	1.3801
	0.9363	0.9433	0.9497	0.9554	0.9600	0.9635	0.9657	1.0467	0.9664
	0.1103	0.1041	0.0937	0.0796	0.0625	0.0430	0.0219	0.0000	0.0000
	1.8164	1.7442	1.6800	1.6256	1.5823	1.5509	1.5319	1.5255	1.5255
0.05	3.8264	3.7171	3.6189	3.5348	3.4672	3.4179	3.3880	4.0001	3.3779
	1.4052	1.4263	1.4462	1.4642	1.4792	1.4907	1.4978	1.5002	
	0.9720	0.9869	1.0010	1.0137	1.0244	1.0325	1.0375	1.0392	
	0.1251	0.1183	0.1069	0.0913	0.0720	0.0497	0.0254	0.0000	
0.10	1.8165	1.7443	1.6800	1.6255	1.5821	1.5506	1.5316	1.5251	
	4.1486	4.1001	4.0619	4.0343	4.0164	4.0060	4.0009	3.9994	
	1.4128	1.4336	1.4532	1.4707	1.4853	1.4962	1.5030	1.5054	
	0.9656	0.9806	0.9946	1.0072	1.0176	1.0255	1.0303	1.0319	
0.15	0.1359	0.1290	0.1169	0.1001	0.0792	0.0548	0.0281	0.0000	
	1.8159	1.7436	1.6793	1.6247	1.5812	1.5496	1.5305	1.5241	
	4.1636	4.1143	4.0740	4.0433	4.0215	4.0075	3.9999	3.9974	
	1.4195	1.4401	1.4594	1.4765	1.4908	1.5015	1.5081	1.5104	
0.20	0.9589	0.9739	0.9880	1.0004	1.0108	1.0186	1.0234	1.0250	
	0.1441	0.1369	0.1242	0.1065	0.0843	0.0584	0.0299	0.0000	
	1.8146	1.7424	1.6780	1.6233	1.5797	1.5481	1.5289	1.5224	
	4.1717	4.1218	4.0800	4.0471	4.0229	4.0066	3.9974	3.9943	
0.25	1.4256	1.4461	1.4652	1.4821	1.4961	1.5066	1.5131	1.5153	
	0.9521	0.9672	0.9813	0.9938	1.0041	1.0119	1.0167	1.0183	
	0.1507	0.1433	0.1301	0.1116	0.0883	0.0612	0.0314	0.0000	
	1.8127	1.7405	1.6760	1.6213	1.5776	1.5459	1.5267	1.5202	
0.30	4.1762	4.1257	4.0828	4.0482	4.0221	4.0041	3.9936	3.9901	
	1.4315	1.4518	1.4707	1.4874	1.5012	1.5116	1.5180	1.5202	
	0.9453	0.9605	0.9747	0.9872	0.9976	1.0053	1.0101	1.0117	
	0.1563	0.1486	0.1350	0.1158	0.0917	0.0635	0.0325	0.0000	
0.35	1.8102	1.7380	1.6735	1.6187	1.5750	1.5432	1.5239	1.5174	
	4.1781	4.1272	4.0833	4.0473	4.0196	4.0002	3.9887	3.9849	
	1.4372	1.4573	1.4760	1.4926	1.5062	1.5164	1.5227	1.5249	
	0.9386	0.9539	0.9682	0.9808	0.9912	0.9990	1.0038	1.0054	
0.40	0.1613	0.1533	0.1392	0.1194	0.0946	0.0655	0.0335	0.0000	
	1.8071	1.7349	1.6705	1.6157	1.5718	1.5400	1.5206	1.5141	
	4.1781	4.1268	4.0819	4.0447	4.0157	3.9951	3.9829	3.9787	
	1.4427	1.4627	1.4812	1.4976	1.5111	1.5212	1.5275	1.5296	
0.45	0.9319	0.9474	0.9618	0.9745	0.9849	0.9927	0.9976	0.9992	
	0.1656	0.1574	0.1430	0.1226	0.0970	0.0672	0.0344	0.0000	
	1.8035	1.7314	1.6669	1.6121	1.5682	1.5363	1.5169	1.5104	
	4.1765	4.1248	4.0791	4.0409	4.0107	3.9891	3.9760	3.9717	
0.50	1.4481	1.4679	1.4863	1.5026	1.5160	1.5260	1.5321	1.5342	
	0.9254	0.9410	0.9555	0.9683	0.9788	0.9866	0.9915	0.9931	
	0.1695	0.1611	0.1463	0.1254	0.0992	0.0687	0.0352	0.0000	
	1.7992	1.7273	1.6629	1.6080	1.5641	1.5321	1.5127	1.5061	
0.55	4.1734	4.1213	4.0750	4.0358	4.0046	3.9820	3.9683	3.9637	
	1.4534	1.4731	1.4913	1.5074	1.5207	1.5306	1.5367	1.5388	
	0.9190	0.9348	0.9494	0.9622	0.9728	0.9807	0.9856	0.9872	
	0.1730	0.1644	0.1492	0.1279	0.1012	0.0700	0.0359	0.0000	
0.60	1.7945	1.7227	1.6583	1.6035	1.5595	1.5275	1.5080	1.5015	
	4.1690	4.1167	4.0697	4.0296	3.9974	3.9740	3.9598	3.9550	
	1.4586	1.4782	1.4963	1.5123	1.5254	1.5352	1.5413	1.5434	
	0.9127	0.9286	0.9433	0.9562	0.9669	0.9748	0.9797	0.9814	
0.65	0.1763	0.1674	0.1519	0.1301	0.1029	0.0712	0.0365	0.0000	
	1.7893	1.7176	1.6533	1.5985	1.5545	1.5224	1.5030	1.4964	
	4.1634	4.1108	4.0633	4.0224	3.9893	3.9652	3.9504	3.9454	

$$M_{\infty} = 5, \beta_{\kappa} = 35^{\circ}, \alpha = 5^{\circ}$$

ξ	θ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.55	1.4638 0.9265 0.1792 1.7836 4.1568	1.4832 0.9225 0.1702 1.7121 4.1039	1.5012 0.9373 0.1543 1.6479 4.0558	1.5170 0.9504 0.1322 1.5931 4.0142	1.5301 0.9611 0.1045 1.5491 3.9804	1.5398 0.9691 0.0723 1.5170 3.9555	1.5458 0.9740 0.0370 1.4975 3.9402	1.5479 0.9757 0.0000 1.4909 3.9351	
0.60	1.4689 0.9203 0.1820 1.7774 4.1490	1.4881 0.9165 0.1727 1.7061 4.0960	1.5060 0.9315 0.1566 1.6420 4.0474	1.5217 0.9446 0.1340 1.5872 4.0051	1.5347 0.9554 0.1059 1.5433 3.9705	1.5444 0.9634 0.0733 1.5111 3.9450	1.5503 0.9684 0.0375 1.4916 3.9293	1.5524 0.9700 0.0000 1.4850 3.9239	
0.65	1.4739 0.8943 0.1845 1.7707 4.1403	1.4930 0.9106 0.1750 1.6997 4.0871	1.5108 0.9257 0.1586 1.6357 4.0381	1.5264 0.9389 0.1357 1.5810 3.9951	1.5393 0.9497 0.1072 1.5370 3.9599	1.5489 0.9578 0.0742 1.5049 3.9337	1.5548 0.9628 0.0379 1.4853 3.9176	1.5569 0.9645 0.0000 1.4787 3.9121	
0.70	1.4790 0.8883 0.1868 1.7636 4.1306	1.4979 0.9048 0.1772 1.6928 4.0773	1.5156 0.9199 0.1605 1.6290 4.0279	1.5311 0.9332 0.1373 1.5744 3.9843	1.5439 0.9442 0.1084 1.5304 3.9484	1.5534 0.9523 0.0750 1.4982 3.9216	1.5593 0.9573 0.0383 1.4787 3.9051	1.5613 0.9590 0.0000 1.4721 3.8995	
0.75	1.4839 0.8824 0.1890 1.7561 4.1200	1.5028 0.8990 0.1792 1.6855 4.0666	1.5203 0.9143 0.1622 1.6219 4.0167	1.5357 0.9277 0.1387 1.5673 3.9726	1.5485 0.9387 0.1095 1.5234 3.9361	1.5579 0.9469 0.0757 1.4912 3.9088	1.5638 0.9519 0.0387 1.4717 3.8919	1.5658 0.9536 0.0000 1.4650 3.8862	
0.80	1.4889 0.8765 0.1911 1.7481 4.1085	1.5076 0.8933 0.1810 1.6778 4.0550	1.5250 0.9087 0.1639 1.6144 4.0048	1.5404 0.9222 0.1401 1.5599 3.9601	1.5530 0.9332 0.1106 1.5160 3.9231	1.5625 0.9415 0.0764 1.4838 3.8952	1.5683 0.9466 0.0391 1.4642 3.8780	1.5703 0.9483 0.0000 1.4576 3.8721	
0.85	1.4939 0.8707 0.1930 1.7396 4.0961	1.5125 0.8876 0.1828 1.6696 4.0425	1.5298 0.9031 0.1654 1.6064 3.9920	1.5450 0.9167 0.1413 1.5520 3.9468	1.5576 0.9278 0.1115 1.5082 3.9092	1.5670 0.9361 0.0770 1.4760 3.8809	1.5728 0.9412 0.0394 1.4564 3.8633	1.5747 0.9429 0.0000 1.4498 3.8573	
0.90	1.4989 0.8650 0.1948 1.7307 4.0828	1.5173 0.8820 0.1844 1.6610 4.0291	1.5345 0.8976 0.1668 1.5980 3.9783	1.5497 0.9113 0.1425 1.5438 3.9327	1.5622 0.9225 0.1124 1.5000 3.8945	1.5715 0.9308 0.0776 1.4678 3.8657	1.5773 0.9359 0.0397 1.4482 3.8478	1.5792 0.9376 0.0000 1.4416 3.8417	
0.95	1.5038 0.8592 0.1965 1.7213 4.0686	1.5222 0.8764 0.1859 1.6520 4.0149	1.5392 0.8921 0.1681 1.5892 3.9638	1.5543 0.9059 0.1435 1.5351 3.9178	1.5668 0.9171 0.1132 1.4914 3.8791	1.5761 0.9255 0.0782 1.4592 3.8498	1.5818 0.9306 0.0399 1.4396 3.8315	1.5838 0.9324 0.0000 1.4330 3.8253	
1.00	1.5088 0.8535 0.1980 1.7115 4.0534	1.5271 0.8708 0.1873 1.6426 3.9998	1.5440 0.8867 0.1693 1.5800 3.9484	1.5590 0.9005 0.1445 1.5260 3.9020	1.5714 0.9118 0.1139 1.4823 3.8628	1.5807 0.9202 0.0786 1.4502 3.8330	1.5864 0.9254 0.0402 1.4306 3.8145	1.5884 0.9271 0.0000 1.4240 3.8081	
F_x	0.8813	0.8798	0.8781	0.8765	0.8751	0.8740	0.8732	0.8730	

$$M_{\infty} = 5, \beta_k = 35^\circ, \alpha = 10^\circ$$

ξ	θ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.00	1. 1470 0. 8031 0. 0000 2. 7618 4. 7861	1. 1490 0. 8045 0. 0438 2. 7411 4. 7604	1. 1549 0. 8086 0. 0863 2. 6803 4. 6848	1. 1645 0. 8154 0. 1262 2. 5836 4. 5634	1. 1777 0. 8246 0. 1621 2. 4572 4. 4028	1. 1941 0. 8361 0. 1928 2. 3090 4. 2115	1. 2132 0. 8495 0. 2171 2. 1478 3. 9993	1. 2345 0. 8644 0. 2337 1. 9822 3. 7765	1. 2573 0. 8804 0. 2415 1. 8203 3. 5535
0.05	1. 1539 0. 7933 0. 0000 2. 7612 4. 7854	1. 1572 0. 7957 0. 0480 2. 7406 4. 7658	1. 1669 0. 8027 0. 0943 2. 6801 4. 7081	1. 1830 0. 8142 0. 1376 2. 5838 4. 6159	1. 2049 0. 8298 0. 1761 2. 4579 4. 4947	1. 2322 0. 8494 0. 2087 2. 3102 4. 3519	1. 2642 0. 8722 0. 2338 2. 1493 4. 1962	1. 3002 0. 8979 0. 2505 1. 9839 4. 0374	1. 3393 0. 9258 0. 2578 1. 8231 3. 8858
0.10	1. 1608 0. 7837 0. 0000 2. 7594 4. 7831	1. 1642 0. 7862 0. 0508 2. 7389 4. 7648	1. 1745 0. 7937 0. 1000 2. 6788 4. 7110	1. 1913 0. 8060 0. 1458 2. 5830 4. 6248	1. 2141 0. 8228 0. 1868 2. 4577 4. 5114	1. 2426 0. 8435 0. 2214 2. 3106 4. 3776	1. 2758 0. 8677 0. 2483 2. 1502 4. 2314	1. 3129 0. 8947 0. 2664 1. 9852 4. 0819	1. 3528 0. 9237 0. 2748 1. 8235 3. 9385
0.15	1. 1677 0. 7742 0. 0000 2. 7564 4. 7795	1. 1712 0. 7769 0. 0532 2. 7361 4. 7621	1. 1817 0. 7847 0. 1047 2. 6763 4. 7112	1. 1989 0. 7976 0. 1527 2. 5811 4. 6296	1. 2223 0. 8151 0. 1956 2. 4566 4. 5220	1. 2513 0. 8368 0. 2318 2. 3102 4. 3948	1. 2851 0. 8619 0. 2602 2. 1505 4. 2554	1. 3227 0. 8897 0. 2794 1. 9859 4. 1122	1. 3630 0. 9194 0. 2887 1. 8244 3. 9741
0.20	1. 1745 0. 7649 0. 0000 2. 7524 4. 7744	1. 1781 0. 7677 0. 0553 2. 7322 4. 7579	1. 1888 0. 7758 0. 1088 2. 6729 4. 7095	1. 2062 0. 7892 0. 1587 2. 5784 4. 6317	1. 2299 0. 8073 0. 2032 2. 4546 4. 5291	1. 2592 0. 8297 0. 2410 2. 3090 4. 4074	1. 2933 0. 8555 0. 2705 2. 1500 4. 2736	1. 3312 0. 8840 0. 2906 1. 9860 4. 1355	1. 3716 0. 9143 0. 3006 1. 8248 4. 0013
0.25	1. 1813 0. 7558 0. 0000 2. 7472 4. 7681	1. 1850 0. 7586 0. 0572 2. 7272 4. 7524	1. 1957 0. 7671 0. 1125 2. 6684 4. 7061	1. 2133 0. 7808 0. 1640 2. 5746 4. 6318	1. 2372 0. 7995 0. 2101 2. 4518 4. 5336	1. 2667 0. 8225 0. 2491 2. 3071 4. 4167	1. 3009 0. 8489 0. 2797 2. 1489 4. 2878	1. 3388 0. 8780 0. 3006 1. 9855 4. 1540	1. 3792 0. 9088 0. 3110 1. 8248 4. 0231
0.30	1. 1881 0. 7468 0. 0000 2. 7411 4. 7604	1. 1918 0. 7497 0. 0589 2. 7213 4. 7454	1. 2026 0. 7584 0. 1159 2. 6630 4. 7013	1. 2202 0. 7726 0. 1689 2. 5700 4. 6302	1. 2442 0. 7917 0. 2164 2. 4481 4. 5360	1. 2737 0. 8152 0. 2565 2. 3045 4. 4236	1. 3080 0. 8423 0. 2880 2. 1472 4. 2990	1. 3459 0. 8719 0. 3095 1. 9846 4. 1691	1. 3863 0. 9031 0. 3203 1. 8243 4. 0410
0.35	1. 1949 0. 7379 0. 0000 2. 7340 4. 7516	1. 1985 0. 7409 0. 0605 2. 7143 4. 7373	1. 2094 0. 7499 0. 1190 2. 6566 4. 6950	1. 2270 0. 7644 0. 1735 2. 5645 4. 6270	1. 2510 0. 7840 0. 2222 2. 4437 4. 5366	1. 2806 0. 8080 0. 2634 2. 3012 4. 4284	1. 3148 0. 8356 0. 2956 2. 1449 4. 3079	1. 3526 0. 8657 0. 3177 1. 9830 4. 1816	1. 3928 0. 8973 0. 3287 1. 8233 4. 0559
0.40	1. 2016 0. 7292 0. 0000 2. 7259 4. 7416	1. 2053 0. 7323 0. 0620 2. 7065 4. 7279	1. 2161 0. 7415 0. 1219 2. 6494 4. 6875	1. 2337 0. 7563 0. 1777 2. 5582 4. 6224	1. 2577 0. 7764 0. 2276 2. 4385 4. 5356	1. 2872 0. 8009 0. 2697 2. 2971 4. 4313	1. 3213 0. 8289 0. 3027 2. 1420 4. 3148	1. 3590 0. 8595 0. 3252 1. 9810 4. 1917	1. 3990 0. 8915 0. 3364 1. 8219 4. 0684
0.45	1. 2084 0. 7207 0. 0000 2. 7169 4. 7304	1. 2120 0. 7238 0. 0634 2. 6977 4. 7174	1. 2228 0. 7332 0. 1247 2. 6413 4. 6788	1. 2403 0. 7483 0. 1817 2. 5511 4. 6164	1. 2642 0. 7688 0. 2326 2. 4326 4. 5331	1. 2936 0. 7938 0. 2757 2. 2925 4. 4327	1. 3276 0. 8223 0. 3093 2. 1385 4. 3198	1. 3652 0. 8534 0. 3322 1. 9785 4. 1999	1. 4049 0. 8857 0. 3435 1. 8200 4. 0787
0.50	1. 2151 0. 7122 0. 0000 2. 7071 4. 7182	1. 2187 0. 7155 0. 0647 2. 6881 4. 7057	1. 2294 0. 7250 0. 1273 2. 6324 4. 6689	1. 2469 0. 7405 0. 1855 2. 5432 4. 6092	1. 2707 0. 7613 0. 2374 2. 4259 4. 5293	1. 2999 0. 7867 0. 2812 2. 2871 4. 4326	1. 3337 0. 8157 0. 3154 2. 1344 4. 3233	1. 3711 0. 8472 0. 3387 1. 9755 4. 2064	1. 4106 0. 8800 0. 3500 1. 8177 4. 0872

$$M_{\infty} = 5, \beta_{\kappa} = 35^{\circ}, \alpha = 10^{\circ}$$

ξ	θ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.55	1.2218 0.7039 0.0000 2.6964 4.7048	1.2254 0.7072 0.0660 2.6776 4.6929	1.2360 0.7169 0.1297 2.6226 4.6578	1.2534 0.7327 0.1891 2.5345 4.6008	1.2770 0.7539 0.2419 2.4186 4.5242	1.3061 0.7798 0.2865 2.2812 4.4311	1.3397 0.8092 0.3212 2.1298 4.3253	1.3768 0.8412 0.3447 1.9720 4.2113	1.4161 0.8743 0.3561 1.8150 4.0941
0.60	1.2285 0.6957 0.0000 2.6848 4.6904	1.2320 0.6991 0.0672 2.6664 4.6791	1.2426 0.7090 0.1321 2.6120 4.6457	1.2599 0.7250 0.1925 2.5251 4.5913	1.2833 0.7466 0.2462 2.4105 4.5179	1.3122 0.7729 0.2915 2.2746 4.4283	1.3456 0.8028 0.3206 2.1247 4.3259	1.3824 0.8352 0.3304 1.9680 4.2148	1.4214 0.8687 0.3408 1.8120 4.0995
0.65	1.2352 0.6876 0.0000 2.6725 4.6750	1.2387 0.6910 0.0683 2.6543 4.6643	1.2492 0.7011 0.1343 2.6007 4.6325	1.2663 0.7174 0.1957 2.5150 4.5806	1.2896 0.7394 0.2503 2.4018 4.5104	1.3182 0.7661 0.2962 2.2675 4.4243	1.3513 0.7965 0.3318 2.1190 4.3253	1.3878 0.8292 0.3558 1.9636 4.2169	1.4266 0.8631 0.3671 1.8085 4.1035
0.70	1.2419 0.6796 0.0000 2.6593 4.6585	1.2454 0.6830 0.0695 2.6414 4.6484	1.2558 0.6933 0.1365 2.5886 4.6182	1.2727 0.7099 0.1988 2.5041 4.5689	1.2958 0.7323 0.2542 2.3925 4.5018	1.3241 0.7594 0.3007 2.2597 4.4192	1.3570 0.7902 0.3367 2.1128 4.3234	1.3932 0.8234 0.3609 1.9587 4.2179	1.4316 0.8577 0.3721 1.8046 4.1062
0.75	1.2486 0.6716 0.0000 2.6453 4.6410	1.2521 0.6751 0.0705 2.6277 4.6314	1.2624 0.6856 0.1386 2.5758 4.6029	1.2791 0.7025 0.2018 2.4925 4.5560	1.3019 0.7252 0.2579 2.3824 4.4921	1.3300 0.7527 0.3050 2.2514 4.4128	1.3625 0.7839 0.3414 2.1061 4.3204	1.3984 0.8175 0.3657 1.9534 4.2170	1.4365 0.8522 0.3768 1.8004 4.1077
0.80	1.2554 0.6637 0.0000 2.6306 4.6225	1.2588 0.6673 0.0715 2.6133 4.6135	1.2689 0.6779 0.1405 2.5622 4.5865	1.2855 0.6951 0.2046 2.4802 4.5422	1.3081 0.7181 0.2615 2.3718 4.4813	1.3358 0.7461 0.3091 2.2425 4.4054	1.3680 0.7777 0.3458 2.0989 4.3162	1.4036 0.8118 0.3702 1.9477 4.2162	1.4414 0.8469 0.3813 1.7957 4.1082
0.85	1.2621 0.6559 0.0000 2.6151 4.6031	1.2655 0.6595 0.0725 2.5980 4.5945	1.2755 0.6703 0.1424 2.5479 4.5691	1.2919 0.6878 0.2073 2.4672 4.5272	1.3142 0.7112 0.2649 2.3605 4.4695	1.3417 0.7395 0.3130 2.2330 4.3969	1.3735 0.7716 0.3500 2.0911 4.3110	1.4087 0.8061 0.3745 1.9415 4.2136	1.4462 0.8416 0.3855 1.7907 4.1075
0.90	1.2690 0.6481 0.0000 2.5988 4.5825	1.2723 0.6518 0.0735 2.5821 4.5746	1.2822 0.6628 0.1443 2.5328 4.5507	1.2983 0.6805 0.2100 2.4536 4.5113	1.3203 0.7043 0.2682 2.3485 4.4566	1.3474 0.7330 0.3168 2.2229 4.3874	1.3789 0.7656 0.3541 2.0829 4.3047	1.4138 0.8005 0.3787 1.9349 4.2101	1.4509 0.8363 0.3894 1.7854 4.1058
0.95	1.2758 0.6403 0.0000 2.5817 4.5610	1.2791 0.6441 0.0744 2.5653 4.5536	1.2888 0.6552 0.1461 2.5169 4.5313	1.3048 0.6733 0.2125 2.4392 4.4942	1.3264 0.6974 0.2713 2.3359 4.4426	1.3532 0.7266 0.3204 2.2123 4.3767	1.3843 0.7595 0.3580 2.0742 4.2973	1.4188 0.7949 0.3826 1.9278 4.2054	1.4555 0.8311 0.3932 1.7796 4.1030
1.00	1.2827 0.6326 0.0000 2.5638 4.5384	1.2860 0.6365 0.0753 2.5477 4.5315	1.2955 0.6478 0.1478 2.5004 4.5108	1.3112 0.6661 0.2150 2.4241 4.4762	1.3326 0.6905 0.2744 2.3227 4.4276	1.3590 0.7201 0.3239 2.2010 4.3650	1.3897 0.7535 0.3617 2.0649 4.2889	1.4237 0.7893 0.3863 1.9203 4.1998	1.4601 0.8260 0.3968 1.7735 4.0993
F_x	0.9005	0.9006	0.9007	0.9009	0.9010	0.9009	0.9006	0.8998	0.8983

$$M_{\infty} = 5, \beta_{\kappa} = 35^{\circ}, \alpha = 10^{\circ}$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.00	1.2808	1.3040	1.3257	1.3449	1.3606	1.3719	1.3788	1.5827	1.3811
	0.8968	0.9130	0.9283	0.9417	0.9527	0.9606	0.9654	1.1082	0.9670
	0.2395	0.2270	0.2040	0.1717	0.1328	0.0901	0.0457	0.0000	0.0000
	1.6690	1.5338	1.4185	1.3251	1.2541	1.2047	1.1758	1.1662	1.1662
0.05	3.3399	3.1444	2.9736	2.8324	2.7232	2.6462	2.6006	3.6013	2.5855
	1.3806	1.4227	1.4644	1.5036	1.5380	1.5648	1.5818	1.5877	
	0.9552	0.9851	1.0146	1.0423	1.0665	1.0853	1.0972	1.1012	
	0.2550	0.2421	0.2192	0.1876	0.1485	0.1032	0.0531	0.0000	
0.10	1.6707	1.5352	1.4195	1.3257	1.2544	1.2047	1.1756	1.1659	
	3.7519	3.6456	3.5750	3.5435	3.5460	3.5682	3.5913	3.6006	
	1.3945	1.4366	1.4773	1.5149	1.5470	1.5717	1.5870	1.5923	
	0.9537	0.9839	1.0131	1.0398	1.0626	1.0801	1.0910	1.0947	
0.15	0.2730	0.2607	0.2380	0.2056	0.1642	0.1148	0.0593	0.0000	
	1.6720	1.5363	1.4202	1.3260	1.2542	1.2042	1.1749	1.1651	
	3.8106	3.7070	3.6340	3.5937	3.5813	3.5859	3.5949	3.5988	
	1.4048	1.4465	1.4865	1.5230	1.5539	1.5773	1.5918	1.5968	
0.20	0.9499	0.9803	1.0092	1.0355	1.0576	1.0745	1.0850	1.0885	
	0.2874	0.2753	0.2523	0.2187	0.1752	0.1228	0.0634	0.0000	
	1.6729	1.5370	1.4206	1.3259	1.2537	1.2032	1.1736	1.1637	
	3.8497	3.7467	3.6708	3.6236	3.6010	3.5947	3.5951	3.5958	
0.25	1.4133	1.4547	1.4942	1.5298	1.5598	1.5824	1.5963	1.6011	
	0.9452	0.9757	1.0046	1.0305	1.0523	1.0688	1.0791	1.0826	
	0.2996	0.2874	0.2638	0.2291	0.1837	0.1288	0.0665	0.0000	
	1.6734	1.5373	1.4206	1.3254	1.2527	1.2019	1.1720	1.1620	
0.30	3.8791	3.7760	3.6972	3.6442	3.6137	3.5992	3.5935	3.5920	
	1.4208	1.4619	1.5009	1.5359	1.5652	1.5871	1.6006	1.6053	
	0.9400	0.9707	0.9995	1.0254	1.0470	1.0633	1.0735	1.0769	
	0.3101	0.2977	0.2735	0.2377	0.1906	0.1335	0.0689	0.0000	
0.35	1.6735	1.5373	1.4202	1.3246	1.2514	1.2001	1.1699	1.1598	
	3.9025	3.7990	3.7174	3.6592	3.6221	3.6010	3.5905	3.5872	
	1.4276	1.4684	1.5069	1.5415	1.5702	1.5917	1.6048	1.6094	
	0.9347	0.9655	0.9944	1.0201	1.0416	1.0579	1.0681	1.0714	
0.40	0.3195	0.3068	0.2819	0.2449	0.1964	0.1375	0.0709	0.0000	
	1.6732	1.5369	1.4194	1.3234	1.2497	1.1980	1.1675	1.1573	
	3.9217	3.8176	3.7332	3.6703	3.6275	3.6008	3.5864	3.5817	
	1.4339	1.4744	1.5126	1.5467	1.5749	1.5960	1.6089	1.6134	
0.45	0.9292	0.9602	0.9892	1.0149	1.0364	1.0526	1.0628	1.0661	
	0.3279	0.3148	0.2892	0.2512	0.2012	0.1408	0.0726	0.0000	
	1.6724	1.5361	1.4183	1.3219	1.2477	1.1955	1.1648	1.1545	
	3.9377	3.8328	3.7457	3.6786	3.6306	3.5992	3.5814	3.5754	
0.50	1.4399	1.4801	1.5179	1.5516	1.5795	1.6002	1.6130	1.6173	
	0.9237	0.9549	0.9840	1.0097	1.0312	1.0475	1.0576	1.0610	
	0.3355	0.3220	0.2957	0.2566	0.2055	0.1436	0.0740	0.0000	
	1.6713	1.5349	1.4169	1.3200	1.2453	1.1928	1.1617	1.1513	
0.55	3.9510	3.8453	3.7557	3.6846	3.6320	3.5962	3.5754	3.5684	
	1.4456	1.4854	1.5229	1.5563	1.5838	1.6043	1.6169	1.6212	
	0.9182	0.9497	0.9788	1.0046	1.0262	1.0424	1.0526	1.0560	
	0.3424	0.3285	0.3015	0.2615	0.2091	0.1461	0.0752	0.0000	
0.60	1.6698	1.5334	1.4152	1.3178	1.2427	1.1897	1.1583	1.1478	
	3.9621	3.8555	3.7635	3.6887	3.6318	3.5921	3.5686	3.5607	
	1.4510	1.4906	1.5278	1.5608	1.5881	1.6084	1.6208	1.6251	
	0.9128	0.9444	0.9737	0.9996	1.0212	1.0375	1.0477	1.0511	
0.65	0.3488	0.3344	0.3067	0.2658	0.2124	0.1482	0.0763	0.0000	
	1.6679	1.5316	1.4131	1.3153	1.2397	1.1863	1.1547	1.1441	
	3.9713	3.8639	3.7695	3.6912	3.6303	3.5871	3.5611	3.5523	

$$M_{\infty} = 5, \beta_{\infty} = 35^{\circ}, \alpha = 10^{\circ}$$

δ	θ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.55	1.4562 0.9274 0.3546 1.6656 3.9788	1.4955 0.9393 0.3398 1.5294 3.8705	1.5324 0.9687 0.3114 1.4107 3.7739	1.5652 0.9947 0.2696 1.3126 3.6923	1.5922 1.0163 0.2153 1.2364 3.6277	1.6123 1.0326 0.1501 1.1826 3.5811	1.6246 1.0428 0.0772 1.1507 3.5529	1.6289 1.0463 0.0000 1.1400 3.5432	
0.60	1.4612 0.9231 0.3601 1.6630 3.9848	1.5003 0.9342 0.3447 1.5269 3.8757	1.5369 0.9638 0.3157 1.4081 3.7769	1.5695 0.9899 0.2730 1.3095 3.6921	1.5963 1.0115 0.2178 1.2329 3.6240	1.6163 1.0279 0.1518 1.1786 3.5743	1.6285 1.0381 0.0780 1.1464 3.5440	1.6326 1.0415 0.0000 1.1356 3.5336	
0.65	1.4661 0.8969 0.3651 1.6601 3.9894	1.5049 0.9292 0.3493 1.5242 3.8795	1.5413 0.9589 0.3196 1.4051 3.7786	1.5736 0.9851 0.2762 1.3061 3.6907	1.6003 1.0068 0.2201 1.2291 3.6193	1.6201 1.0232 0.1533 1.1744 3.5666	1.6322 1.0335 0.0787 1.1419 3.5343	1.6364 1.0369 0.0000 1.1310 3.5233	
0.70	1.4709 0.8917 0.3698 1.6568 3.9927	1.5094 0.9242 0.3535 1.5211 3.8821	1.5456 0.9541 0.3231 1.4019 3.7791	1.5777 0.9804 0.2790 1.3025 3.6884	1.6042 1.0022 0.2222 1.2250 3.6137	1.6239 1.0186 0.1546 1.1699 3.5582	1.6360 1.0289 0.0794 1.1371 3.5241	1.6401 1.0323 0.0000 1.1261 3.5123	
0.75	1.4755 0.8866 0.3742 1.6532 3.9949	1.5138 0.9194 0.3574 1.5177 3.8835	1.5497 0.9494 0.3264 1.3984 3.7786	1.5817 0.9758 0.2815 1.2986 3.6850	1.6081 0.9976 0.2240 1.2206 3.6073	1.6278 1.0141 0.1558 1.1651 3.5491	1.6398 1.0243 0.0799 1.1320 3.5131	1.6439 1.0278 0.0000 1.1209 3.5008	
0.80	1.4800 0.8815 0.3783 1.6493 3.9959	1.5181 0.9146 0.3610 1.5140 3.8839	1.5538 0.9448 0.3294 1.3946 3.7770	1.5857 0.9713 0.2839 1.2945 3.6807	1.6120 0.9931 0.2257 1.2160 3.6000	1.6316 1.0096 0.1568 1.1600 3.5392	1.6435 1.0198 0.0804 1.1266 3.5015	1.6476 1.0233 0.0000 1.1154 3.4885	
0.85	1.4845 0.8766 0.3822 1.6451 3.9959	1.5223 0.9098 0.3644 1.5101 3.8832	1.5579 0.9402 0.3322 1.3905 3.7746	1.5896 0.9668 0.2860 1.2901 3.6756	1.6158 0.9887 0.2272 1.2111 3.5920	1.6353 1.0051 0.1577 1.1547 3.5286	1.6473 1.0154 0.0809 1.1210 3.4892	1.6514 1.0188 0.0000 1.1097 3.4757	
0.90	1.4889 0.8716 0.3858 1.6405 3.9949	1.5265 0.9052 0.3676 1.5058 3.8816	1.5619 0.9357 0.3347 1.3862 3.7712	1.5934 0.9623 0.2879 1.2854 3.6696	1.6196 0.9843 0.2285 1.2060 3.5832	1.6391 1.0007 0.1586 1.1490 3.5173	1.6511 1.0109 0.0813 1.1150 3.4763	1.6552 1.0144 0.0000 1.1036 3.4621	
0.95	1.4932 0.8668 0.3893 1.6356 3.9929	1.5305 0.9005 0.3705 1.5013 3.8791	1.5658 0.9312 0.3371 1.3817 3.7669	1.5973 0.9580 0.2897 1.2805 3.6628	1.6234 0.9799 0.2297 1.2005 3.5736	1.6429 0.9963 0.1593 1.1431 3.5053	1.6549 1.0065 0.0816 1.1088 3.4626	1.6590 1.0099 0.0000 1.0973 3.4479	
1.00	1.4975 0.8620 0.3925 1.6304 3.9900	1.5346 0.8960 0.3732 1.4965 3.8756	1.5697 0.9268 0.3393 1.3768 3.7618	1.6011 0.9536 0.2913 1.2753 3.6553	1.6272 0.9756 0.2308 1.1948 3.5633	1.6468 0.9919 0.1599 1.1369 3.4926	1.6588 1.0021 0.0819 1.1023 3.4482	1.6629 1.0055 0.0000 1.0906 3.4329	
F_x	0.8961	0.8931	0.8893	0.8850	0.8808	0.8771	0.8746	0.8737	

$$M_{\infty} = 5, \beta_K = 35^\circ, \alpha = 15^\circ$$

ξ	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.00	1.0037 0.7028 0.0000 3.1812 4.9501	1.0069 0.7050 0.0673 3.1471 4.9122	1.0161 0.7115 0.1328 3.0475 4.8006	1.0313 0.7221 0.1948 2.8901 4.6222	1.0522 0.7368 0.2517 2.6870 4.3877	1.0783 0.7550 0.3017 2.4524 4.1106	1.1089 0.7765 0.3432 2.2018 3.8060	1.1434 0.8006 0.3743 1.9500 3.4897	1.1808 0.8268 0.3934 1.7099 3.1771
0.05	1.0114 0.6920 0.0000 3.1804 4.9493	1.0159 0.6952 0.0715 3.1466 4.9171	1.0291 0.7047 0.1408 3.0477 4.8226	1.0509 0.7204 0.2059 2.8914 4.6713	1.0806 0.7418 0.2646 2.6895 4.4722	1.1177 0.7686 0.3151 2.4561 4.2368	1.1613 0.7999 0.3555 2.2064 3.9787	1.2105 0.8353 0.3840 1.9552 3.7123	1.2643 0.8738 0.3990 1.7151 3.4530
0.10	1.0191 0.6813 0.0000 3.1783 4.9469	1.0238 0.6848 0.0748 3.1447 4.9168	1.0379 0.6953 0.1472 3.0467 4.8282	1.0610 0.7124 0.2151 2.8916 4.6863	1.0925 0.7358 0.2762 2.6911 4.4993	1.1318 0.7648 0.3285 2.4590 4.2780	1.1778 0.7988 0.3701 2.2105 4.0348	1.2295 0.8368 0.3993 1.9600 3.7836	1.2858 0.8780 0.4147 1.7202 3.5389
0.15	1.0267 0.6708 0.0000 3.1747 4.9430	1.0316 0.6745 0.0776 3.1415 4.9145	1.0462 0.6857 0.1528 3.0444 4.8308	1.0701 0.7039 0.2232 2.8907 4.6965	1.1027 0.7288 0.2864 2.6917 4.5193	1.1432 0.7595 0.3405 2.4613 4.3091	1.1905 0.7953 0.3834 2.2141 4.0776	1.2436 0.8352 0.4135 1.9644 3.8379	1.3010 0.8781 0.4295 1.7250 3.6037
0.20	1.0343 0.6605 0.0000 3.1600 4.9377	1.0393 0.6644 0.0803 3.1370 4.9106	1.0542 0.6762 0.1580 3.0409 4.8312	1.0786 0.6953 0.2306 2.8887 4.7037	1.1119 0.7214 0.2959 2.6915 4.5351	1.1531 0.7535 0.3515 2.4628 4.3347	1.2013 0.7908 0.3957 2.2171 4.1133	1.2551 0.8322 0.4267 1.9685 3.8831	1.3132 0.8763 0.4433 1.7295 3.6574
0.25	1.0419 0.6504 0.0000 3.1638 4.9308	1.0470 0.6545 0.0827 3.1313 4.9052	1.0621 0.6667 0.1628 3.0362 4.8298	1.0868 0.6867 0.2376 2.8856 4.7086	1.1205 0.7138 0.3047 2.6903 4.5479	1.1622 0.7472 0.3618 2.4635 4.3564	1.2108 0.7858 0.4072 2.2195 4.1442	1.2650 0.8284 0.4390 1.9721 3.9226	1.3235 0.8736 0.4560 1.7338 3.7041
0.30	1.0494 0.6404 0.0000 3.1565 4.9226	1.0546 0.6447 0.0850 3.1244 4.8983	1.0698 0.6574 0.1673 3.0305 4.8267	1.0947 0.6781 0.2441 2.8816 4.7114	1.1286 0.7062 0.3129 2.6884 4.5583	1.1706 0.7407 0.3715 2.4636 4.3752	1.2195 0.7804 0.4179 2.2215 4.1715	1.2739 0.8241 0.4505 1.9754 3.9579	1.3324 0.8702 0.4680 1.7379 3.7458
0.35	1.0570 0.6307 0.0000 3.1480 4.9131	1.0621 0.6351 0.0872 3.1163 4.8901	1.0774 0.6482 0.1716 3.0236 4.8222	1.1024 0.6696 0.2503 2.8766 4.7126	1.1364 0.6986 0.3208 2.6856 4.5667	1.1785 0.7340 0.3807 2.4631 4.3916	1.2275 0.7748 0.4281 2.2229 4.1960	1.2819 0.8195 0.4613 1.9784 3.9898	1.3404 0.8665 0.4791 1.7417 3.7836
0.40	1.0645 0.6211 0.0000 3.1384 4.9024	1.0696 0.6256 0.0893 3.1071 4.8806	1.0849 0.6392 0.1757 3.0158 4.8162	1.1100 0.6612 0.2562 2.8707 4.7121	1.1440 0.6910 0.3283 2.6819 4.5732	1.1861 0.7274 0.3895 2.4618 4.4059	1.2350 0.7692 0.4378 2.2238 4.2182	1.2894 0.8148 0.4716 1.9810 4.0190	1.3477 0.8626 0.4896 1.7453 3.8184
0.45	1.0720 0.6116 0.0000 3.1277 4.8905	1.0771 0.6163 0.0913 3.0969 4.8699	1.0924 0.6302 0.1796 3.0069 4.8089	1.1174 0.6529 0.2619 2.8639 4.7102	1.1513 0.6834 0.3355 2.6776 4.5782	1.1933 0.7208 0.3979 2.4600 4.4185	1.2420 0.7635 0.4470 2.2242 4.2383	1.2962 0.8100 0.4813 1.9832 4.0459	1.3543 0.8585 0.4994 1.7487 3.8505
0.50	1.0795 0.6023 0.0000 3.1159 4.8774	1.0846 0.6071 0.0933 3.0857 4.8579	1.0998 0.6214 0.1834 2.9970 4.8004	1.1247 0.6446 0.2674 2.8562 4.7070	1.1585 0.6759 0.3423 2.6724 4.5816	1.2002 0.7141 0.4059 2.4575 4.4293	1.2488 0.7578 0.4558 2.2242 4.2566	1.3027 0.8051 0.4905 1.9851 4.0709	1.3604 0.8543 0.5088 1.7518 3.8805

$$M_{\infty} = 5, \beta_{\kappa} = 35^{\circ}, \alpha = 15^{\circ}$$

ξ	θ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.55	1.0870 0.5931 0.0000 3.1032 4.8631	1.0921 0.5981 0.0951 3.0734 4.8448	1.1072 0.6127 0.1870 2.9863 4.7906	1.1319 0.6365 0.2726 2.8476 4.7024	1.1655 0.6685 0.3490 2.6665 4.5836	1.2070 0.7076 0.4136 2.4544 4.4386	1.2552 0.7521 0.4642 2.2237 4.2732	1.3088 0.8002 0.4993 1.9866 4.0940	1.3661 0.8501 0.5176 1.7548 3.9085
0.60	1.0945 0.5840 0.0000 3.0894 4.8477	1.0995 0.5891 0.0969 3.0602 4.8305	1.1145 0.6041 0.1906 2.9745 4.7796	1.1390 0.6284 0.2777 2.8382 4.6965	1.1724 0.6612 0.3554 2.6599 4.5842	1.2135 0.7010 0.4210 2.4507 4.4466	1.2614 0.7464 0.4723 2.2227 4.2884	1.3145 0.7953 0.5078 1.9879 4.1155	1.3715 0.8459 0.5259 1.7575 3.9348
0.65	1.1020 0.5751 0.0000 3.0747 4.8312	1.1070 0.5803 0.0987 3.0460 4.8151	1.1218 0.5956 0.1940 2.9619 4.7674	1.1461 0.6205 0.2826 2.8279 4.6895	1.1791 0.6539 0.3616 2.6526 4.5836	1.2199 0.6945 0.4281 2.4464 4.4531	1.2673 0.7407 0.4801 2.2212 4.3021	1.3200 0.7905 0.5158 1.9888 4.1356	1.3765 0.8417 0.5339 1.7600 3.9595
0.70	1.1095 0.5662 0.0000 3.0590 4.8136	1.1144 0.5715 0.1004 3.0309 4.7986	1.1291 0.5872 0.1973 2.9484 4.7541	1.1531 0.6126 0.2874 2.8169 4.6812	1.1858 0.6467 0.3675 2.6445 4.5818	1.2261 0.6881 0.4350 2.4416 4.4584	1.2730 0.7351 0.4876 2.2194 4.3145	1.3252 0.7856 0.5235 1.9894 4.1543	1.3812 0.8376 0.5415 1.7623 3.9828
0.75	1.1170 0.5574 0.0000 3.0424 4.7949	1.1219 0.5628 0.1021 3.0148 4.7810	1.1364 0.5788 0.2005 2.9340 4.7397	1.1601 0.6047 0.2920 2.8051 4.6718	1.1924 0.6395 0.3734 2.6358 4.5787	1.2322 0.6817 0.4417 2.4361 4.4624	1.2786 0.7295 0.4948 2.2170 4.3256	1.3302 0.7808 0.5309 1.9896 4.1717	1.3857 0.8335 0.5487 1.7644 3.9048
0.80	1.1246 0.5487 0.0000 3.0248 4.7751	1.1294 0.5542 0.1037 2.9979 4.7623	1.1437 0.5705 0.2037 2.9188 4.7242	1.1671 0.5970 0.2965 2.7924 4.6613	1.1989 0.6324 0.3790 2.6264 4.5745	1.2382 0.6753 0.4482 2.4301 4.4653	1.2840 0.7239 0.5018 2.2143 4.3356	1.3351 0.7761 0.5381 1.9896 4.1879	1.3899 0.8294 0.5556 1.7663 3.90257
0.85	1.1322 0.5401 0.0000 3.0063 4.7542	1.1369 0.5457 0.1052 2.9800 4.7425	1.1510 0.5623 0.2067 2.9027 4.7075	1.1740 0.5892 0.3009 2.7790 4.6496	1.2053 0.6253 0.3845 2.6162 4.5691	1.2441 0.6690 0.4545 2.4235 4.4669	1.2893 0.7184 0.5086 2.2111 4.3443	1.3397 0.7713 0.5449 1.9893 4.2029	1.3940 0.8254 0.5622 1.7681 3.90454
0.90	1.1398 0.5315 0.0000 2.9869 4.7323	1.1445 0.5372 0.1068 2.9612 4.7216	1.1583 0.5542 0.2097 2.8857 4.6898	1.1810 0.5816 0.3052 2.7648 4.6367	1.2118 0.6183 0.3898 2.6054 4.5625	1.2499 0.6627 0.4606 2.4163 4.4674	1.2945 0.7129 0.5151 2.2074 4.3519	1.3442 0.7666 0.5515 1.9886 4.2169	1.3979 0.8214 0.5685 1.7696 3.90640
0.95	1.1475 0.5230 0.0000 2.9666 4.7092	1.1521 0.5288 0.1083 2.9415 4.6997	1.1657 0.5460 0.2126 2.8678 4.6709	1.1879 0.5739 0.3093 2.7497 4.6228	1.2182 0.6113 0.3950 2.5938 4.5548	1.2557 0.6565 0.4665 2.4086 4.4668	1.2995 0.7075 0.5214 2.2033 4.3584	1.3486 0.7620 0.5579 1.9876 4.2297	1.4016 0.8175 0.5746 1.7709 3.90816
1.00	1.1553 0.5145 0.0000 2.9453 4.6850	1.1598 0.5204 0.1097 2.9209 4.6766	1.1731 0.5379 0.2155 2.8491 4.6509	1.1949 0.5663 0.3134 2.7339 4.6076	1.2246 0.6044 0.4000 2.5816 4.5460	1.2614 0.6503 0.4723 2.4002 4.4650	1.3045 0.7021 0.5276 2.1987 4.3638	1.3528 0.7574 0.5641 1.9863 4.2415	1.4051 0.8136 0.5804 1.7720 3.90983
F_x	0.9189	0.9192	0.9200	0.9212	0.9228	0.9245	0.9261	0.9273	0.9276

$$M_{\infty} = 5, \beta_{\kappa} = 35^{\circ}, \alpha = 15^{\circ}$$

ξ	θ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.00	1.2200	1.2596	1.2981	1.3335	1.3631	1.3832	1.3939	1.6558	1.3974
	0.8542	0.8820	0.9089	0.9337	0.9545	0.9685	0.9760	1.1594	0.9784
	0.3984	0.3868	0.3562	0.3027	0.2252	0.1424	0.0694	0.0000	0.0000
	1.4917	1.3028	1.1478	1.0288	0.9450	0.8921	0.8637	0.8545	0.8545
0.05	2.8819	2.6162	2.3899	2.2101	2.0800	1.9963	1.9506	3.1247	1.9358
	1.3215	1.3813	1.4424	1.5038	1.5639	1.6156	1.6489	1.6604	
	0.9148	0.9574	1.0009	1.0445	1.0865	1.1221	1.1451	1.1528	
	0.3990	0.3824	0.3482	0.2963	0.2319	0.1615	0.0845	0.0000	
0.10	1.4966	1.3069	1.1510	1.0308	0.9460	0.8925	0.8636	0.8543	
	3.2159	3.0177	2.8753	2.8101	2.8466	2.9639	3.0789	3.1240	
	1.3453	1.4066	1.4680	1.5278	1.5829	1.6974	1.6552	1.6646	
	0.9212	0.9655	1.0096	1.0521	1.0904	1.1211	1.1405	1.1469	
0.15	0.4149	0.3989	0.3661	0.3170	0.2551	0.1816	0.0958	0.0000	
	1.5013	1.3110	1.1541	1.0329	0.9470	0.8926	0.8632	0.8536	
	3.3156	3.1296	2.9966	2.9344	2.9529	3.0265	3.0961	3.1223	
	1.3614	1.4232	1.4842	1.5424	1.5944	1.6351	1.6600	1.6685	
0.20	0.9227	0.9677	1.0118	1.0532	1.0894	1.1177	1.1356	1.1416	
	0.4302	0.4147	0.3827	0.3346	0.2722	0.1950	0.1027	0.0000	
	1.5060	1.3150	1.1571	1.0348	0.9478	0.8925	0.8624	0.8526	
	3.3892	3.2096	3.0793	3.0129	3.0146	3.0599	3.1037	3.1196	
0.25	1.3740	1.4357	1.4962	1.5531	1.6029	1.6412	1.6643	1.6721	
	0.9219	0.9674	1.0113	1.0518	1.0867	1.1137	1.1308	1.1366	
	0.4443	0.4291	0.3974	0.3493	0.2856	0.2047	0.1076	0.0000	
	1.5105	1.3189	1.1601	1.0366	0.9485	0.8921	0.8613	0.8513	
0.30	3.4495	3.2736	3.1432	3.0705	3.0572	3.0812	3.1071	3.1162	
	1.3844	1.4459	1.5058	1.5616	1.6098	1.6463	1.6682	1.6756	
	0.9199	0.9657	1.0095	1.0493	1.0832	1.1094	1.1263	1.1319	
	0.4574	0.4423	0.4104	0.3618	0.2963	0.2122	0.1112	0.0000	
0.35	1.5148	1.3228	1.1630	1.0383	0.9490	0.8915	0.8600	0.8497	
	3.5014	3.3277	3.1956	3.1159	3.0889	3.0958	3.1080	3.1122	
	1.3933	1.4545	1.5139	1.5688	1.6157	1.6509	1.6718	1.6789	
	0.9172	0.9633	1.0069	1.0462	1.0794	1.1052	1.1218	1.1275	
0.40	0.4694	0.4542	0.4220	0.3725	0.3051	0.2181	0.1141	0.0000	
	1.5190	1.3265	1.1658	1.0399	0.9493	0.8907	0.8585	0.8480	
	3.5473	3.3749	3.2403	3.1532	3.1137	3.1060	3.1073	3.1075	
	1.4011	1.4621	1.5209	1.5750	1.6209	1.6550	1.6753	1.6821	
0.45	0.9140	0.9604	1.0039	1.0427	1.0755	1.1010	1.1176	1.1232	
	0.4806	0.4651	0.4323	0.3818	0.3125	0.2230	0.1164	0.0000	
	1.5230	1.3301	1.1685	1.0414	0.9494	0.8897	0.8567	0.8460	
	3.5888	3.4170	3.2793	3.1847	3.1336	3.1132	3.1053	3.1023	
0.50	1.4081	1.4687	1.5271	1.5805	1.6256	1.6589	1.6787	1.6853	
	0.9106	0.9572	1.0006	1.0391	1.0716	1.0969	1.1135	1.1191	
	0.4910	0.4751	0.4416	0.3898	0.3187	0.2270	0.1182	0.0000	
	1.5269	1.3337	1.1711	1.0427	0.9494	0.8885	0.8548	0.8437	
0.45	3.6268	3.4552	3.3139	3.2117	3.1498	3.1181	3.1022	3.0965	
	1.4144	1.4747	1.5326	1.5854	1.6299	1.6626	1.6819	1.6884	
	0.9071	0.9539	0.9972	1.0355	1.0677	1.0930	1.1095	1.1151	
	0.5006	0.4843	0.4499	0.3969	0.3240	0.2303	0.1198	0.0000	
0.50	1.5307	1.3371	1.1736	1.0439	0.9492	0.8871	0.8526	0.8413	
	3.6618	3.4900	3.3451	3.2354	3.1632	3.1212	3.0983	3.0902	
	1.4202	1.4801	1.5376	1.5900	1.6338	1.6661	1.6851	1.6914	
	0.9034	0.9505	0.9937	1.0319	1.0639	1.0891	1.1056	1.1112	
0.50	0.5097	0.4927	0.4574	0.4031	0.3286	0.2331	0.1210	0.0000	
	1.5343	1.3404	1.1760	1.0450	0.9488	0.8855	0.8503	0.8387	
	3.6944	3.5222	3.3733	3.2562	3.1743	3.1228	3.0937	3.0834	

$$M_{\infty} = 5, \beta_{\kappa} = 35^{\circ}, \alpha = 15^{\circ}$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.55	1.4255 0.8997 0.5182 1.5378 3.7248	1.4850 0.9470 0.5005 1.3437 3.5520	1.5421 0.9903 0.4643 1.1784 3.3991	1.5941 1.0283 0.4086 1.0460 3.2748	1.6376 1.0602 0.3325 0.9484 3.1835	1.6694 1.0853 0.2354 0.8838 3.1232	1.6882 1.1018 0.1221 0.8478 3.0883	1.6945 1.1074 0.0000 0.8360 3.0761	
0.60	1.4305 0.8960 0.5261 1.5412 3.7535	1.4895 0.9436 0.5077 1.3469 3.5799	1.5463 0.9869 0.4705 1.1807 3.4230	1.5980 1.0248 0.4135 1.0469 3.2914	1.6411 1.0566 0.3359 0.9478 3.1912	1.6726 1.0816 0.2374 0.8819 3.1226	1.6912 1.0981 0.1229 0.8451 3.0823	1.6975 1.1037 0.0000 0.8330 3.0683	
0.65	1.4350 0.8923 0.5336 1.5444 3.7805	1.4937 0.9402 0.5145 1.3500 3.6061	1.5502 0.9836 0.4761 1.1830 3.4451	1.6016 1.0214 0.4179 1.0478 3.3064	1.6444 1.0530 0.3388 0.9470 3.1975	1.6758 1.0780 0.2391 0.8798 3.1210	1.6942 1.0944 0.1237 0.8422 3.0756	1.7004 1.1001 0.0000 0.8298 3.0600	
0.70	1.4393 0.8887 0.5407 1.5476 3.8060	1.4976 0.9369 0.5207 1.3531 3.6309	1.5538 0.9804 0.4813 1.1852 3.4657	1.6049 1.0181 0.4217 1.0485 3.3200	1.6476 1.0496 0.3414 0.9462 3.2026	1.6788 1.0744 0.2405 0.8776 3.1186	1.6972 1.0908 0.1243 0.8391 3.0684	1.7034 1.0965 0.0000 0.8265 3.0512	
0.75	1.4433 0.8851 0.5474 1.5506 3.8302	1.5012 0.9336 0.5265 1.3561 3.6542	1.5571 0.9772 0.4860 1.1873 3.4850	1.6081 1.0149 0.4252 1.0492 3.3324	1.6507 1.0463 0.3436 0.9452 3.2068	1.6818 1.0710 0.2417 0.8752 3.1155	1.7002 1.0873 0.1247 0.8359 3.0606	1.7064 1.0929 0.0000 0.8230 3.0418	
0.80	1.4470 0.8816 0.5537 1.5536 3.8532	1.5046 0.9304 0.5320 1.3591 3.6764	1.5602 0.9742 0.4903 1.1895 3.5031	1.6111 1.0118 0.4283 1.0499 3.3437	1.6536 1.0430 0.3455 0.9442 3.2101	1.6848 1.0676 0.2427 0.8727 3.1116	1.7032 1.0838 0.1251 0.8324 3.0523	1.7094 1.0894 0.0000 0.8192 3.0320	
0.85	1.4506 0.8781 0.5597 1.5564 3.8752	1.5077 0.9274 0.5371 1.3621 3.6976	1.5631 0.9713 0.4943 1.1916 3.5203	1.6139 1.0088 0.4310 1.0505 3.3542	1.6564 1.0399 0.3471 0.9430 3.2126	1.6877 1.0643 0.2435 0.8700 3.1071	1.7061 1.0803 0.1254 0.8288 3.0433	1.7124 1.0858 0.0000 0.8153 3.0216	
0.90	1.4539 0.8747 0.5654 1.5592 3.8961	1.5106 0.9244 0.5418 1.3650 3.7178	1.5658 0.9684 0.4979 1.1937 3.5366	1.6165 1.0060 0.4335 1.0511 3.3639	1.6592 1.0369 0.3485 0.9418 3.2145	1.6905 1.0610 0.2441 0.8672 3.1020	1.7091 1.0768 0.1257 0.8250 3.0338	1.7154 1.0823 0.0000 0.8112 3.0106	
0.95	1.4571 0.8714 0.5708 1.5618 3.9161	1.5134 0.9215 0.5463 1.3679 3.7371	1.5683 0.9657 0.5013 1.1958 3.5522	1.6190 1.0032 0.4357 1.0517 3.3729	1.6618 1.0339 0.3497 0.9405 3.2157	1.6934 1.0578 0.2446 0.8642 3.0963	1.7122 1.0734 0.1258 0.8210 3.0237	1.7185 1.0788 0.0000 0.8068 2.9990	
1.00	1.4601 0.8682 0.5760 1.5644 3.9352	1.5160 0.9187 0.5505 1.3707 3.7557	1.5707 0.9631 0.5044 1.1980 3.5670	1.6214 1.0006 0.4376 1.0522 3.3814	1.6644 1.0310 0.3506 0.9391 3.2164	1.6962 1.0546 0.2450 0.8611 3.0900	1.7152 1.0699 0.1259 0.8167 3.0129	1.7216 1.0752 0.0000 0.8022 2.9867	
F_x	0.9266	0.9236	0.9183	0.9106	0.9011	0.8918	0.8853	0.8828	

$$M_{\infty} = 5, \beta_{\kappa} = 40^{\circ}, \alpha = 5^{\circ}$$

ξ	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.00	1.0571 0.8870 0.0000 2.8034 4.7912	1.0581 0.8878 0.0213 2.7939 4.7796	1.0609 0.8902 0.0419 2.7659 4.7454	1.0657 0.8942 0.0609 2.7210 4.6902	1.0721 0.8996 0.0777 2.6615 4.6166	1.0799 0.9061 0.0916 2.5903 4.5282	1.0889 0.9137 0.1020 2.5111 4.4288	1.0988 0.9220 0.1084 2.4274 4.3229	1.1092 0.9307 0.1106 2.3430 4.2149
0.05	1.0647 0.8780 0.0000 2.8028 4.7904	1.0667 0.8797 0.0245 2.7933 4.7833	1.0725 0.8847 0.0480 2.7654 4.7624	1.0821 0.8928 0.0698 2.7206 4.7292	1.0952 0.9040 0.0890 2.6612 4.6859	1.1114 0.9178 0.1048 2.5901 4.6353	1.1302 0.9338 0.1167 2.5110 4.5808	1.1510 0.9515 0.1241 2.4274 4.5261	1.1733 0.9705 0.1269 2.3430 4.4746
0.10	1.0723 0.8692 0.0000 2.8009 4.7881	1.0743 0.8709 0.0264 2.7915 4.7815	1.0803 0.8761 0.0519 2.7637 4.7620	1.0901 0.8847 0.0755 2.7190 4.7308	1.1035 0.8962 0.0963 2.6598 4.6900	1.1199 0.9105 0.1136 2.5889 4.6423	1.1390 0.9270 0.1267 2.5099 4.5907	1.1601 0.9452 0.1352 2.4265 4.5384	1.1824 0.9644 0.1385 2.3421 4.4885
0.15	1.0798 0.8606 0.0000 2.7979 4.7845	1.0818 0.8624 0.0279 2.7885 4.7781	1.0879 0.8678 0.0549 2.7608 4.7595	1.0978 0.8765 0.0799 2.7163 4.7299	1.1113 0.8884 0.1020 2.6573 4.6909	1.1279 0.9030 0.1204 2.5867 4.6452	1.1470 0.9198 0.1345 2.5079 4.5955	1.1681 0.9383 0.1436 2.4246 4.5448	1.1904 0.9578 0.1473 2.3404 4.4960
0.20	1.0872 0.8522 0.0000 2.7938 4.7795	1.0892 0.8541 0.0292 2.7845 4.7734	1.0954 0.8595 0.0574 2.7569 4.7556	1.1053 0.8685 0.0836 2.7126 4.7271	1.1188 0.8806 0.1067 2.6539 4.6897	1.1355 0.8955 0.1261 2.5835 4.6455	1.1546 0.9126 0.1409 2.5050 4.5974	1.1757 0.9313 0.1505 2.4219 4.5479	1.1979 0.9510 0.1546 2.3379 4.4999
0.25	1.0945 0.8440 0.0000 2.7887 4.7732	1.0966 0.8459 0.0303 2.7794 4.7674	1.1027 0.8515 0.0596 2.7520 4.7502	1.1127 0.8606 0.0868 2.7080 4.7228	1.1262 0.8730 0.1109 2.6495 4.6867	1.1428 0.8880 0.1310 2.5795 4.6439	1.1619 0.9054 0.1464 2.5013 4.5971	1.1829 0.9244 0.1565 2.4184 4.5487	1.2050 0.9442 0.1608 2.3346 4.5013
0.30	1.1018 0.8361 0.0000 2.7826 4.7657	1.1038 0.8380 0.0313 2.7733 4.7601	1.1099 0.8437 0.0616 2.7462 4.7436	1.1199 0.8529 0.0896 2.7024 4.7171	1.1334 0.8655 0.1145 2.6442 4.6822	1.1500 0.8808 0.1354 2.5746 4.6407	1.1690 0.8983 0.1513 2.4967 4.5950	1.1899 0.9175 0.1617 2.4142 4.5475	1.2119 0.9376 0.1662 2.3305 4.5007
0.35	1.1090 0.8283 0.0000 2.7756 4.7572	1.1110 0.8302 0.0322 2.7664 4.7517	1.1171 0.8360 0.0634 2.7394 4.7358	1.1271 0.8454 0.0922 2.6959 4.7102	1.1405 0.8581 0.1179 2.6381 4.6763	1.1570 0.8736 0.1393 2.5688 4.6360	1.1760 0.8914 0.1557 2.4914 4.5914	1.1968 0.9107 0.1664 2.4092 4.5448	1.2186 0.9310 0.1710 2.3258 4.4986
0.40	1.1161 0.8207 0.0000 2.7677 4.7475	1.1181 0.8227 0.0331 2.7586 4.7423	1.1242 0.8285 0.0650 2.7318 4.7269	1.1341 0.8380 0.0946 2.6886 4.7021	1.1475 0.8509 0.1209 2.6312 4.6693	1.1639 0.8666 0.1428 2.5624 4.6301	1.1828 0.8845 0.1596 2.4853 4.5865	1.2034 0.9041 0.1706 2.4035 4.5407	1.2251 0.9245 0.1753 2.3204 4.4949
0.45	1.1231 0.8133 0.0000 2.7590 4.7368	1.1252 0.8153 0.0338 2.7499 4.7318	1.1312 0.8212 0.0665 2.7234 4.7169	1.1411 0.8308 0.0968 2.6805 4.6929	1.1544 0.8438 0.1236 2.6235 4.6611	1.1707 0.8597 0.1461 2.5551 4.6229	1.1895 0.8778 0.1633 2.4785 4.5803	1.2100 0.8976 0.1745 2.3971 4.5353	1.2315 0.9182 0.1792 2.3144 4.4900
0.50	1.1302 0.8060 0.0000 2.7495 4.7252	1.1322 0.8080 0.0345 2.7405 4.7203	1.1382 0.8140 0.0679 2.7142 4.7059	1.1480 0.8238 0.0988 2.6717 4.6827	1.1612 0.8369 0.1262 2.6151 4.6518	1.1774 0.8529 0.1491 2.5472 4.6146	1.1961 0.8712 0.1666 2.4711 4.5730	1.2165 0.8912 0.1780 2.3901 4.5288	1.2378 0.9120 0.1828 2.3078 4.4839

$$M_{\infty} = 5, \beta_{\infty} = 40^{\circ}, \alpha = 5^{\circ}$$

ξ	θ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.55	1.1371 0.7988 0.0000 2.7392 4.7125	1.1392 0.8009 0.0352 2.7303 4.7078	1.1451 0.8070 0.0691 2.7042 4.6940	1.1548 0.8168 0.1007 2.6621 4.6715	1.1680 0.8301 0.1286 2.6060 4.6415	1.1841 0.8463 0.1519 2.5386 4.6053	1.2026 0.8648 0.1697 2.4630 4.5646	1.2228 0.8849 0.1813 2.3825 4.5211	1.2440 0.9058 0.1862 2.3006 4.4768
0.60	1.1441 0.7918 0.0000 2.7282 4.6990	1.1461 0.7930 0.0358 2.7194 4.6945	1.1520 0.8000 0.0704 2.6936 4.6811	1.1616 0.8100 0.1024 2.6518 4.6594	1.1747 0.8234 0.1308 2.5962 4.6303	1.1907 0.8398 0.1545 2.5294 4.5951	1.2090 0.8584 0.1726 2.4543 4.5552	1.2291 0.8787 0.1843 2.3743 4.5125	1.2501 0.8998 0.1892 2.2928 4.4686
0.65	1.1510 0.7849 0.0000 2.7165 4.6846	1.1530 0.7870 0.0364 2.7078 4.6802	1.1588 0.7932 0.0715 2.6822 4.6673	1.1684 0.8033 0.1040 2.6409 4.6463	1.1813 0.8169 0.1329 2.5858 4.6181	1.1972 0.8334 0.1569 2.5195 4.5838	1.2154 0.8522 0.1753 2.4450 4.5449	1.2353 0.8726 0.1872 2.3656 4.5028	1.2562 0.8939 0.1921 2.2845 4.4594
0.70	1.1579 0.7782 0.0000 2.7041 4.6694	1.1598 0.7803 0.0369 2.6955 4.6651	1.1656 0.7866 0.0726 2.6702 4.6527	1.1751 0.7967 0.1056 2.6293 4.6324	1.1880 0.8104 0.1348 2.5748 4.6050	1.2037 0.8271 0.1592 2.5091 4.5717	1.2217 0.8461 0.1778 2.4351 4.5336	1.2415 0.8667 0.1898 2.3563 4.4923	1.2622 0.8881 0.1947 2.2757 4.4493
0.75	1.1647 0.7715 0.0000 2.6911 4.6533	1.1667 0.7736 0.0375 2.6826 4.6492	1.1724 0.7800 0.0736 2.6575 4.6372	1.1818 0.7902 0.1071 2.6171 4.6176	1.1945 0.8040 0.1367 2.5631 4.5911	1.2101 0.8208 0.1613 2.4980 4.5586	1.2280 0.8400 0.1801 2.4247 4.5214	1.2476 0.8608 0.1923 2.3464 4.4808	1.2681 0.8824 0.1972 2.2664 4.4384
0.80	1.1716 0.7649 0.0000 2.6774 4.6363	1.1735 0.7671 0.0379 2.6690 4.6324	1.1792 0.7735 0.0745 2.6442 4.6208	1.1885 0.7838 0.1084 2.6042 4.6019	1.2011 0.7978 0.1384 2.5508 4.5763	1.2165 0.8147 0.1634 2.4864 4.5447	1.2343 0.8340 0.1824 2.4137 4.5084	1.2537 0.8550 0.1946 2.3360 4.4685	1.2740 0.8767 0.1995 2.2565 4.4265
0.85	1.1784 0.7585 0.0000 2.6630 4.6186	1.1803 0.7606 0.0384 2.6547 4.6148	1.1859 0.7671 0.0754 2.6303 4.6037	1.1952 0.7775 0.1098 2.5908 4.5854	1.2076 0.7916 0.1401 2.5379 4.5606	1.2229 0.8087 0.1653 2.4742 4.5300	1.2405 0.8282 0.1844 2.4022 4.4945	1.2597 0.8493 0.1968 2.3252 4.4554	1.2799 0.8712 0.2017 2.2462 4.4139
0.90	1.1852 0.7521 0.0000 2.6481 4.6000	1.1871 0.7543 0.0389 2.6399 4.5964	1.1927 0.7608 0.0763 2.6157 4.5857	1.2018 0.7713 0.1110 2.5767 4.5681	1.2142 0.7855 0.1416 2.5245 4.5442	1.2293 0.8027 0.1671 2.4614 4.5145	1.2467 0.8223 0.1864 2.3902 4.4798	1.2657 0.8436 0.1988 2.3138 4.4414	1.2858 0.8657 0.2037 2.2354 4.4004
0.95	1.1921 0.7457 0.0000 2.6325 4.5807	1.1939 0.7479 0.0393 2.6244 4.5772	1.1995 0.7545 0.0771 2.6006 4.5669	1.2085 0.7651 0.1122 2.5620 4.5500	1.2207 0.7794 0.1431 2.5105 4.5269	1.2357 0.7968 0.1688 2.4481 4.4981	1.2529 0.8166 0.1883 2.3776 4.4643	1.2718 0.8380 0.2007 2.3019 4.4266	1.2916 0.8602 0.2056 2.2241 4.3861
1.00	1.1989 0.7395 0.0000 2.6162 4.5605	1.2008 0.7417 0.0397 2.6083 4.5572	1.2062 0.7483 0.0779 2.5848 4.5473	1.2152 0.7590 0.1133 2.5468 4.5311	1.2272 0.7734 0.1445 2.4958 4.5088	1.2420 0.7910 0.1705 2.4342 4.4809	1.2591 0.8109 0.1901 2.3644 4.4480	1.2778 0.8325 0.2026 2.2895 4.4110	1.2974 0.8548 0.2074 2.2124 4.3711
F_x	1.1009	1.1007	1.1001	1.0992	1.0978	1.0960	1.0937	1.0911	1.0881

$$M_{\infty} = 5, \beta_{\kappa} = 40^{\circ}, \alpha = 5^{\circ}$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.00	1.1197 0.9395 0.1084 2.2612 4.1093	1.1298 0.9480 0.1019 2.1852 4.0101	1.1392 0.9559 0.0915 2.1173 3.9207	1.1474 0.9628 0.0775 2.0596 3.8441	1.1542 0.9685 0.0667 2.0135 3.7825	1.1592 0.9727 0.0417 1.9800 3.7374	1.1623 0.9753 0.0212 1.9597 3.7100	1.2921 1.0842 0.0000 1.9529 4.3331	1.1633 0.9761 0.0000 1.9529 3.7008
0.05	1.1962 0.9900 0.1247 2.2612 4.4294	1.2189 1.0092 0.1177 2.1851 4.3928	1.2404 1.0274 0.1062 2.1172 4.3659	1.2597 1.0438 0.0905 2.0594 4.3482	1.2760 1.0576 0.0713 2.0132 4.3383	1.2883 1.0680 0.0492 1.9797 4.3340	1.2959 1.0745 0.0251 1.9593 4.3326	1.2986 1.0766 0.0000 1.9524 4.3323	
0.10	1.2052 0.9840 0.1366 2.2604 4.4439	1.2276 1.0033 0.1294 2.1842 4.4065	1.2487 1.0214 0.1172 2.1162 4.3775	1.2675 1.0375 0.1002 2.0583 4.3567	1.2831 1.0509 0.0792 2.0121 4.3432	1.2949 1.0610 0.0547 1.9784 4.3353	1.3022 1.0673 0.0280 1.9580 4.3315	1.3047 1.0694 0.0000 1.9511 4.3303	
0.15	1.2131 0.9775 0.1455 2.2587 4.4516	1.2352 0.9969 0.1381 2.1826 4.4136	1.2560 1.0149 0.1252 2.1145 4.3831	1.2744 1.0309 0.1072 2.0565 4.3602	1.2897 1.0442 0.0848 2.0102 4.3443	1.3012 1.0542 0.0587 1.9764 4.3342	1.3083 1.0604 0.0301 1.9560 4.3287	1.3108 1.0625 0.0000 1.9491 4.3270	
0.20	1.2204 0.9709 0.1528 2.2563 4.4557	1.2423 0.9903 0.1451 2.1801 4.4172	1.2628 1.0084 0.1316 2.1120 4.3855	1.2810 1.0244 0.1128 2.0540 4.3609	1.2960 1.0377 0.0892 2.0076 4.3432	1.3073 1.0476 0.0618 1.9738 4.3314	1.3142 1.0537 0.0316 1.9532 4.3248	1.3166 1.0558 0.0000 1.9463 4.3226	
0.25	1.2273 0.9643 0.1590 2.2531 4.4572	1.2491 0.9838 0.1510 2.1770 4.4183	1.2694 1.0020 0.1370 2.1089 4.3856	1.2873 1.0180 0.1175 2.0508 4.3597	1.3021 1.0312 0.0929 2.0043 4.3404	1.3132 1.0412 0.0643 1.9704 4.3273	1.3200 1.0473 0.0330 1.9498 4.3197	1.3224 1.0493 0.0000 1.9429 4.3172	
0.30	1.2341 0.9578 0.1643 2.2492 4.4568	1.2556 0.9774 0.1561 2.1732 4.4174	1.2757 0.9956 0.1417 2.1051 4.3839	1.2934 1.0117 0.1214 2.0470 4.3568	1.3080 1.0250 0.0961 2.0004 4.3362	1.3190 1.0349 0.0665 1.9665 4.3220	1.3257 1.0410 0.0341 1.9458 4.3136	1.3280 1.0431 0.0000 1.9389 4.3108	
0.35	1.2406 0.9514 0.1691 2.2447 4.4547	1.2620 0.9711 0.1606 2.1688 4.4150	1.2818 0.9894 0.1458 2.1007 4.3807	1.2994 1.0056 0.1249 2.0426 4.3526	1.3138 1.0189 0.0988 1.9959 4.3309	1.3246 1.0288 0.0684 1.9619 4.3156	1.3313 1.0350 0.0350 1.9413 4.3066	1.3335 1.0370 0.0000 1.9343 4.3036	
0.40	1.2470 0.9451 0.1733 2.2395 4.4512	1.2682 0.9649 0.1646 2.1637 4.4112	1.2879 0.9833 0.1494 2.0957 4.3762	1.3052 0.9995 0.1280 2.0376 4.3472	1.3195 1.0129 0.1012 1.9909 4.3245	1.3302 1.0229 0.0701 1.9569 4.3083	1.3367 1.0291 0.0359 1.9362 4.2987	1.3390 1.0311 0.0000 1.9292 4.2954	
0.45	1.2532 0.9389 0.1772 2.2337 4.4464	1.2742 0.9589 0.1683 2.1581 4.4061	1.2937 0.9774 0.1526 2.0902 4.3705	1.3109 0.9937 0.1308 2.0321 4.3407	1.3251 1.0071 0.1034 1.9854 4.3171	1.3356 1.0171 0.0715 1.9513 4.3001	1.3421 1.0233 0.0366 1.9306 4.2899	1.3444 1.0254 0.0000 1.9236 4.2865	
0.50	1.2593 0.9328 0.1807 2.2274 4.4404	1.2802 0.9529 0.1716 2.1519 4.3999	1.2995 0.9715 0.1556 2.0841 4.3638	1.3166 0.9879 0.1332 2.0260 4.3332	1.3306 1.0014 0.1053 1.9793 4.3088	1.3410 1.0115 0.0729 1.9452 4.2911	1.3475 1.0177 0.0373 1.9245 4.2804	1.3497 1.0198 0.0000 1.9175 4.2768	

$$M_{\infty} = 5, \beta_K = 40^\circ, \alpha = 5^\circ$$

ξ	θ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.55	1.2654 0.9268 0.1839 2.2205 4.4334	1.2861 0.9471 0.1746 2.1452 4.3926	1.3052 0.9658 0.1583 2.0775 4.3560	1.3221 0.9823 0.1355 2.0195 4.3247	1.3360 0.9958 0.1071 1.9728 4.2996	1.3464 1.0060 0.0741 1.9387 4.2813	1.3528 1.0122 0.0379 1.9179 4.2701	1.3549 1.0143 0.0000 1.9109 4.2663	
0.60	1.2713 0.9210 0.1869 2.2130 4.4253	1.2919 0.9414 0.1773 2.1381 4.3844	1.3109 0.9602 0.1607 2.0705 4.3474	1.3276 0.9767 0.1376 2.0125 4.3154	1.3414 0.9904 0.1087 1.9659 4.2896	1.3517 1.0005 0.0752 1.9317 4.2706	1.3580 1.0068 0.0384 1.9039 4.2591	1.3602 1.0089 0.0000 1.9039 4.2551	
0.65	1.2772 0.9152 0.1897 2.2051 4.4163	1.2976 0.9357 0.1799 2.1304 4.3753	1.3164 0.9547 0.1630 2.0630 4.3378	1.3331 0.9713 0.1394 2.0051 4.3053	1.3467 0.9850 0.1101 1.9584 4.2788	1.3569 0.9952 0.0762 1.9243 4.2593	1.3632 1.0015 0.0389 1.9035 4.2473	1.3653 1.0037 0.0000 1.8965 4.2433	
0.70	1.2830 0.9095 0.1922 2.1967 4.4064	1.3032 0.9302 0.1823 2.1222 4.3653	1.3220 0.9492 0.1651 2.0550 4.3274	1.3385 0.9660 0.1412 1.9972 4.2944	1.3520 0.9798 0.1115 1.9506 4.2673	1.3621 0.9900 0.0771 1.9164 4.2473	1.3683 0.9963 0.0394 1.8957 4.2349	1.3705 0.9985 0.0000 1.8886 4.2307	
0.75	1.2888 0.9040 0.1946 2.1877 4.3957	1.3089 0.9247 0.1844 2.1136 4.3544	1.3274 0.9439 0.1670 2.0466 4.3163	1.3438 0.9607 0.1428 1.9889 4.2827	1.3573 0.9746 0.1127 1.9423 4.2551	1.3673 0.9849 0.0779 1.9082 4.2345	1.3735 0.9912 0.0398 1.8874 4.2218	1.3756 0.9934 0.0000 1.8803 4.2175	
0.80	1.2946 0.8985 0.1968 2.1784 4.3841	1.3144 0.9194 0.1865 2.1045 4.3427	1.3329 0.9386 0.1688 2.0377 4.3043	1.3491 0.9556 0.1443 1.9801 4.2702	1.3625 0.9635 0.1139 1.9336 4.2421	1.3725 0.9798 0.0787 1.8995 4.2210	1.3786 0.9862 0.0402 1.8787 4.2080	1.3807 0.9884 0.0000 1.8717 4.2036	
0.85	1.3003 0.8930 0.1989 2.1685 4.3716	1.3200 0.9141 0.1884 2.0950 4.3303	1.3383 0.9335 0.1704 2.0284 4.2915	1.3544 0.9505 0.1456 1.9710 4.2570	1.3677 0.9644 0.1149 1.9245 4.2284	1.3776 0.9748 0.0794 1.8904 4.2069	1.3837 0.9812 0.0406 1.8697 4.1936	1.3858 0.9834 0.0000 1.8626 4.1890	
0.90	1.3059 0.8877 0.2008 2.1582 4.3584	1.3255 0.9088 0.1902 2.0850 4.3170	1.3437 0.9283 0.1720 2.0187 4.2780	1.3597 0.9454 0.1469 1.9614 4.2431	1.3729 0.9595 0.1159 1.9150 4.2140	1.3828 0.9699 0.0800 1.8810 4.1921	1.3888 0.9763 0.0409 1.8602 4.1785	1.3909 0.9785 0.0000 1.8531 4.1738	
0.95	1.3116 0.8824 0.2027 2.1474 4.3444	1.3310 0.9037 0.1918 2.0746 4.3030	1.3491 0.9233 0.1734 2.0085 4.2638	1.3650 0.9404 0.1481 1.9514 4.2285	1.3781 0.9545 0.1168 1.9051 4.1989	1.3879 0.9650 0.0806 1.8711 4.1766	1.3939 0.9715 0.0412 1.8503 4.1627	1.3960 0.9737 0.0000 1.8433 4.1579	
1.00	1.3173 0.8771 0.2044 2.1361 4.3296	1.3366 0.8985 0.1934 2.0638 4.2882	1.3545 0.9182 0.1748 1.9980 4.2487	1.3703 0.9355 0.1492 1.9410 4.2131	1.3833 0.9496 0.1176 1.8948 4.1831	1.3931 0.9602 0.0812 1.8608 4.1604	1.3991 0.9667 0.0415 1.8400 4.1462	1.4011 0.9688 0.0000 1.8330 4.1414	
F_x	1.0848	1.0814	1.0780	1.0747	1.0719	1.0697	1.0683	1.0678	

$$M_{\infty} = 5, \beta_{\kappa} = 40^{\circ}, \alpha = 10^{\circ}$$

ξ	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.00	0.9189	0.9210	0.9273	0.9375	0.9515	0.9689	0.9890	1.0114	1.0352
	0.7711	0.7728	0.7781	0.7867	0.7984	0.8128	0.8299	0.8487	0.8687
	0.0000	0.0445	0.0876	0.1279	0.1639	0.1943	0.2179	0.2334	0.2397
	3.2281	3.2069	3.1447	3.0456	2.9156	2.7628	2.5958	2.4234	2.2540
	4.9542	4.9310	4.8625	4.7525	4.6068	4.4330	4.2399	4.0368	3.8331
0.05	0.9274	0.9309	0.9413	0.9584	0.9818	1.0110	1.0454	1.0841	1.1263
	0.7610	0.7641	0.7730	0.7877	0.8077	0.8328	0.8622	0.8953	0.9313
	0.0000	0.0488	0.0960	0.1398	0.1787	0.2111	0.2359	0.2517	0.2579
	3.2273	3.2063	3.1444	3.0457	2.9163	2.7640	2.5974	2.4253	2.2559
	4.9534	4.9357	4.8837	4.8006	4.6918	4.5643	4.4265	4.2877	4.1581
0.10	0.9358	0.9395	0.9504	0.9684	0.9929	1.0233	1.0590	1.0989	1.1420
	0.7513	0.7545	0.7641	0.7798	0.8013	0.8279	0.8590	0.8937	0.9310
	0.0000	0.0519	0.1020	0.1486	0.1900	0.2248	0.2515	0.2691	0.2768
	3.2251	3.2042	3.1427	3.0446	2.9159	2.7643	2.5982	2.4264	2.2572
	4.9510	4.9345	4.8862	4.8090	4.7079	4.5893	4.4611	4.3318	4.2107
0.15	0.9442	0.9480	0.9592	0.9776	1.0026	1.0337	1.0700	1.1105	1.1539
	0.7417	0.7451	0.7551	0.7716	0.7940	0.8217	0.8539	0.8896	0.9278
	0.0000	0.0544	0.1069	0.1558	0.1994	0.2360	0.2644	0.2834	0.2921
	3.2215	3.2007	3.1397	3.0423	2.9144	2.7636	2.5982	2.4269	2.2579
	4.9470	4.9315	4.8860	4.8133	4.7180	4.6060	4.4846	4.3618	4.2461
0.20	0.9525	0.9563	0.9677	0.9864	1.0118	1.0432	1.0798	1.1205	1.1641
	0.7324	0.7359	0.7463	0.7634	0.7865	0.8150	0.8481	0.8846	0.9235
	0.0000	0.0566	0.1113	0.1622	0.2076	0.2458	0.2756	0.2957	0.3052
	3.2166	3.1960	3.1355	3.0388	2.9118	2.7619	2.5973	2.4266	2.2579
	4.9416	4.9270	4.8839	4.8150	4.7245	4.6180	4.5021	4.3845	4.2729
0.25	0.9607	0.9646	0.9761	0.9949	1.0204	1.0521	1.0888	1.1296	1.1731
	0.7233	0.7269	0.7376	0.7552	0.7789	0.8082	0.8420	0.8792	0.9185
	0.0000	0.0586	0.1152	0.1679	0.2149	0.2546	0.2855	0.3066	0.3167
	3.2104	3.1900	3.1301	3.0342	2.9082	2.7593	2.5957	2.4257	2.2574
	4.9349	4.9209	4.8800	4.8146	4.7284	4.6267	4.5158	4.4025	4.2943
0.30	0.9689	0.9727	0.9843	1.0032	1.0288	1.0605	1.0973	1.1381	1.1814
	0.7144	0.7181	0.7291	0.7471	0.7714	0.8013	0.8357	0.8734	0.9133
	0.0000	0.0604	0.1187	0.1731	0.2216	0.2626	0.2946	0.3163	0.3270
	3.2031	3.1829	3.1235	3.0286	2.9037	2.7559	2.5933	2.4241	2.2563
	4.9268	4.9136	4.8747	4.8124	4.7302	4.6329	4.5264	4.4170	4.3116
0.35	0.9770	0.9808	0.9924	1.0113	1.0369	1.0686	1.1054	1.1460	1.1892
	0.7057	0.7095	0.7208	0.7391	0.7640	0.7944	0.8293	0.8676	0.9079
	0.0000	0.0621	0.1220	0.1779	0.2277	0.2699	0.3028	0.3253	0.3363
	3.1945	3.1747	3.1159	3.0220	2.8982	2.7517	2.5901	2.4218	2.2546
	4.9175	4.9050	4.8680	4.8086	4.7302	4.6371	4.5346	4.4288	4.3259
0.40	0.9850	0.9889	1.0004	1.0193	1.0449	1.0765	1.1131	1.1536	1.1966
	0.6972	0.7011	0.7126	0.7313	0.7566	0.7875	0.8230	0.8618	0.9024
	0.0000	0.0636	0.1251	0.1824	0.2335	0.2767	0.3104	0.3334	0.3448
	3.1851	3.1654	3.1073	3.0144	2.8919	2.7466	2.5863	2.4189	2.2524
	4.9071	4.8951	4.8600	4.8035	4.7286	4.6394	4.5407	4.4382	4.3376
0.45	0.9930	0.9968	1.0083	1.0271	1.0527	1.0841	1.1206	1.1609	1.2036
	0.6889	0.6929	0.7046	0.7236	0.7493	0.7807	0.8167	0.8559	0.8969
	0.0000	0.0651	0.1280	0.1866	0.2388	0.2830	0.3175	0.3410	0.3525
	3.1746	3.1551	3.0978	3.0059	2.8847	2.7408	2.5817	2.4155	2.2497
	4.8955	4.8842	4.8508	4.7970	4.7255	4.6401	4.5451	4.4457	4.3472
0.50	1.0003	1.0048	1.0162	1.0349	1.0603	1.0916	1.1279	1.1679	1.2104
	0.6808	0.6848	0.6967	0.7161	0.7422	0.7740	0.8104	0.8501	0.8914
	0.0000	0.0665	0.1307	0.1905	0.2439	0.2889	0.3241	0.3480	0.3597
	3.1632	3.1439	3.0873	2.9966	2.8767	2.7343	2.5766	2.4114	2.2464
	4.8823	4.8721	4.8404	4.7893	4.7211	4.6393	4.5478	4.4514	4.3549

$$M_{\infty} = 5, \beta_{\kappa} = 40^{\circ}, \alpha = 10^{\circ}$$

ξ	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.55	1.0088 0.6729 0.0000 3.1508 4.8692	1.0126 0.6769 0.0678 3.1318 4.8590	1.0240 0.6890 0.1333 3.0760 4.8290	1.0426 0.7087 0.1942 2.9864 4.7804	1.0678 0.7351 0.2486 2.8680 4.7155	1.0989 0.7674 0.2945 2.7270 4.6371	1.1349 0.8042 0.3303 2.5708 4.5491	1.1747 0.8443 0.3546 2.4068 4.4555	1.2169 0.8860 0.3664 2.2427 4.3609
0.60	1.0166 0.6651 0.0000 3.1375 4.8545	1.0204 0.6692 0.0690 3.1188 4.8449	1.0317 0.6815 0.1357 3.0638 4.8165	1.0502 0.7014 0.1978 2.9754 4.7704	1.0752 0.7282 0.2531 2.8585 4.7086	1.1061 0.7609 0.2998 2.7191 4.6337	1.1418 0.7981 0.3361 2.5644 4.5490	1.1813 0.8386 0.3607 2.4017 4.4582	1.2232 0.8806 0.3726 2.2385 4.3655
0.65	1.0245 0.6574 0.0000 3.1234 4.8389	1.0282 0.6616 0.0702 3.1050 4.8299	1.0394 0.6740 0.1381 3.0508 4.8030	1.0577 0.6942 0.2012 2.9636 4.7594	1.0825 0.7214 0.2574 2.8482 4.7007	1.1131 0.7544 0.3048 2.7105 4.6291	1.1486 0.7921 0.3416 2.5574 4.5476	1.1878 0.8329 0.3665 2.3960 4.4595	1.2293 0.8753 0.3784 2.2339 4.3686
0.70	1.0323 0.6499 0.0000 3.1085 4.8224	1.0360 0.6541 0.0714 3.0904 4.8139	1.0471 0.6667 0.1403 3.0370 4.7886	1.0651 0.6872 0.2044 2.9511 4.7474	1.0897 0.7146 0.2615 2.8373 4.6917	1.1201 0.7481 0.3095 2.7013 4.6234	1.1552 0.7861 0.3468 2.5498 4.5451	1.1941 0.8273 0.3720 2.3899 4.4596	1.2353 0.8700 0.3838 2.2288 4.3705
0.75	1.0400 0.6424 0.0000 3.0928 4.8050	1.0437 0.6468 0.0725 3.0749 4.7970	1.0547 0.6595 0.1424 3.0224 4.7732	1.0726 0.6802 0.2075 2.9379 4.7344	1.0969 0.7080 0.2653 2.8257 4.6816	1.1269 0.7418 0.3140 2.6915 4.6166	1.1618 0.7802 0.3518 2.5417 4.5414	1.2003 0.8218 0.3771 2.3833 4.4586	1.2411 0.8649 0.3889 2.2233 4.3712
0.80	1.0478 0.6351 0.0000 3.0762 4.7866	1.0514 0.6395 0.0735 3.0587 4.7792	1.0623 0.6524 0.1445 3.0071 4.7569	1.0800 0.6734 0.2104 2.9239 4.7204	1.1040 0.7015 0.2690 2.8135 4.6706	1.1337 0.7356 0.3183 2.6811 4.6088	1.1682 0.7744 0.3564 2.5330 4.5366	1.2063 0.8164 0.3820 2.3762 4.4564	1.2468 0.8598 0.3937 2.2174 4.3708
0.85	1.0556 0.6279 0.0000 3.0590 4.7674	1.0591 0.6324 0.0745 3.0418 4.7605	1.0698 0.6454 0.1464 2.9910 4.7397	1.0873 0.6666 0.2132 2.9093 4.7055	1.1111 0.6950 0.2726 2.8005 4.6586	1.1404 0.7295 0.3224 2.6700 4.5999	1.1745 0.7687 0.3609 2.5238 4.5308	1.2123 0.8110 0.3866 2.3686 4.4532	1.2524 0.8547 0.3983 2.2110 4.3693
0.90	1.0633 0.6208 0.0000 3.0410 4.7474	1.0669 0.6253 0.0755 3.0241 4.7409	1.0774 0.6385 0.1483 2.9743 4.7216	1.0946 0.6599 0.2159 2.8940 4.6897	1.1181 0.6886 0.2760 2.7870 4.6456	1.1471 0.7235 0.3264 2.6584 4.5901	1.1808 0.7630 0.3652 2.5141 4.5241	1.2182 0.8057 0.3909 2.3605 4.4490	1.2579 0.8497 0.4025 2.2043 4.3668
0.95	1.0711 0.6138 0.0000 3.0222 4.7264	1.0746 0.6183 0.0764 3.0056 4.7205	1.0850 0.6316 0.1501 2.9568 4.7026	1.1020 0.6533 0.2185 2.8779 4.6730	1.1251 0.6823 0.2793 2.7728 4.6317	1.1537 0.7175 0.3301 2.6462 4.5793	1.1871 0.7574 0.3692 2.5039 4.5163	1.2240 0.8004 0.3951 2.3520 4.4438	1.2634 0.8448 0.4066 2.1971 4.3633
1.00	1.0789 0.6069 0.0000 3.0027 4.7046	1.0823 0.6114 0.0773 2.9865 4.6991	1.0925 0.6249 0.1519 2.9386 4.6827	1.1093 0.6468 0.2211 2.8612 4.6553	1.1321 0.6761 0.2824 2.7580 4.6169	1.1603 0.7116 0.3337 2.6334 4.5676	1.1932 0.7519 0.3731 2.4931 4.5076	1.2298 0.7952 0.3991 2.3431 4.4376	1.2687 0.8400 0.4104 2.1896 4.3589
F_x	1.1287	1.1285	1.1280	1.1270	1.1256	1.1234	1.1204	1.1164	1.1112

$$M_{\infty} = 5, \beta_{\infty} = 40^{\circ}, \alpha = 10^{\circ}$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.00	1.0596	1.0835	1.1058	1.1252	1.1408	1.1521	1.1589	1.3892	1.1612
	0.8891	0.9092	0.9278	0.9441	0.9572	0.9667	0.9725	1.1657	0.9744
	0.2359	0.2217	0.1974	0.1648	0.1269	0.0860	0.0436	0.0000	0.0000
	2.0948	1.9516	1.8285	1.7283	1.6515	1.5976	1.5658	1.5552	1.5552
0.05	3.6377	3.4583	3.3012	3.1709	3.0695	2.9976	2.9549	4.0152	2.9406
	1.1709	1.2167	1.2621	1.3048	1.3419	1.3707	1.3888	1.3952	
	0.9693	1.0082	1.0466	1.0827	1.1140	1.1383	1.1535	1.1585	
	0.2539	0.2397	0.2161	0.1842	0.1455	0.1009	0.0519	0.0000	
0.10	2.0955	1.9529	1.8296	1.7289	1.6517	1.5975	1.5655	1.5548	
	4.0478	3.9664	3.9211	3.9135	3.9357	3.9717	4.0026	4.0145	
	1.1871	1.2326	1.2768	1.3175	1.3522	1.3786	1.3951	1.4008	
	0.9699	1.0090	1.0468	1.0814	1.1109	1.1334	1.1474	1.1521	
0.15	0.2740	0.2607	0.2373	0.2045	0.1630	0.1138	0.0587	0.0000	
	2.0977	1.9539	1.8301	1.7290	1.6513	1.5968	1.5645	1.5537	
	4.1068	4.0282	3.9802	3.9632	3.9700	3.9886	4.0058	4.0125	
	1.1990	1.2442	1.2875	1.3269	1.3601	1.3852	1.4007	1.4061	
0.20	0.9672	1.0064	1.0438	1.0777	1.1063	1.1279	1.1414	1.1459	
	0.2901	0.2771	0.2534	0.2192	0.1753	0.1226	0.0633	0.0000	
	2.0984	1.9543	1.8302	1.7286	1.6504	1.5955	1.5630	1.5520	
	4.1458	4.0679	4.0169	3.9926	3.9892	3.9969	4.0059	4.0094	
0.25	1.2090	1.2537	1.2964	1.3348	1.3670	1.3912	1.4061	1.4113	
	0.9532	1.0025	1.0397	1.0732	1.1013	1.1225	1.1357	1.1401	
	0.3037	0.2907	0.2664	0.2309	0.1848	0.1293	0.0667	0.0000	
	2.0985	1.9543	1.8298	1.7277	1.6490	1.5936	1.5609	1.5498	
0.30	4.1750	4.0970	4.0430	4.0128	4.0014	4.0010	4.0040	4.0054	
	1.2179	1.2622	1.3042	1.3419	1.3733	1.3968	1.4112	1.4162	
	0.9586	0.9930	1.0351	1.0684	1.0961	1.1171	1.1301	1.1345	
	0.3154	0.3023	0.2773	0.2405	0.1926	0.1346	0.0694	0.0000	
0.35	2.0981	1.9538	1.8289	1.7263	1.6472	1.5913	1.5583	1.5472	
	4.1980	4.1196	4.0627	4.0273	4.0093	4.0024	4.0007	4.0004	
	1.2260	1.2699	1.3114	1.3485	1.3792	1.4021	1.4162	1.4211	
	0.9537	0.9932	1.0303	1.0634	1.0910	1.1118	1.1248	1.1291	
0.40	0.3259	0.3125	0.2867	0.2487	0.1990	0.1391	0.0717	0.0000	
	2.0972	1.9527	1.8275	1.7245	1.6449	1.5886	1.5553	1.5440	
	4.2167	4.1377	4.0781	4.0380	4.0143	4.0019	3.9964	3.9946	
	1.2335	1.2770	1.3181	1.3546	1.3848	1.4073	1.4210	1.4258	
0.45	0.9486	0.9883	1.0254	1.0584	1.0859	1.1067	1.1196	1.1239	
	0.3352	0.3215	0.2950	0.2558	0.2046	0.1429	0.0736	0.0000	
	2.0958	1.9513	1.8258	1.7223	1.6421	1.5855	1.5518	1.5405	
	4.2320	4.1523	4.0900	4.0457	4.0170	3.9999	3.9910	3.9881	
0.50	1.2406	1.2838	1.3243	1.3604	1.3901	1.4122	1.4258	1.4304	
	0.9434	0.9832	1.0204	1.0534	1.0809	1.1017	1.1146	1.1189	
	0.3436	0.3295	0.3023	0.2620	0.2094	0.1461	0.0752	0.0000	
	2.0939	1.9494	1.8236	1.7195	1.6390	1.5819	1.5480	1.5366	
0.55	4.2446	4.1642	4.0994	4.0512	4.0178	3.9966	3.9848	3.9809	
	1.2473	1.2901	1.3303	1.3659	1.3953	1.4171	1.4304	1.4350	
	0.9382	0.9782	1.0155	1.0485	1.0761	1.0968	1.1097	1.1140	
	0.3513	0.3368	0.3088	0.2675	0.2135	0.1490	0.0766	0.0000	
0.60	2.0915	1.9470	1.8210	1.7166	1.6355	1.5780	1.5438	1.5323	
	4.2550	4.1737	4.1065	4.0547	4.0172	3.9922	3.9778	3.9729	
	1.2537	1.2962	1.3360	1.3713	1.4003	1.4218	1.4349	1.4395	
	0.9330	0.9732	1.0106	1.0437	1.0713	1.0920	1.1049	1.1093	
0.65	0.3583	0.3434	0.3147	0.2724	0.2174	0.1515	0.0779	0.0000	
	2.0887	1.9443	1.8180	1.7132	1.6317	1.5738	1.5393	1.5277	
	4.2634	4.1813	4.1118	4.0565	4.0152	3.9868	3.9701	3.9644	

$$M_{\infty} = 5, \xi_K = 40^\circ, \alpha = 10^\circ$$

ξ	θ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.55	1.2599 0.9278 0.3648 2.0854 4.2701	1.3021 0.9682 0.3494 1.9411 4.1872	1.3415 1.0057 0.3200 1.8147 4.1155	1.3765 1.0390 0.2768 1.7095 4.0570	1.4052 1.0666 0.2207 1.6275 4.0121	1.4264 1.0874 0.1537 1.5692 3.9805	1.4394 1.1003 0.0790 1.5344 3.9616	1.4439 1.1046 0.0000 1.5227 3.9552	
0.60	1.2659 0.9227 0.3708 2.0818 4.2752	1.3077 0.9633 0.3550 1.9376 4.1915	1.3469 1.0010 0.3240 1.8110 4.1177	1.3815 1.0343 0.2807 1.7055 4.0562	1.4099 1.0620 0.2237 1.6230 4.0080	1.4310 1.0828 0.1557 1.5642 3.9734	1.4438 1.0958 0.0800 1.5292 3.9525	1.4483 1.1001 0.0000 1.5174 3.9454	
0.65	1.2717 0.9177 0.3764 2.0777 4.2789	1.3132 0.9585 0.3601 1.9338 4.1945	1.3520 0.9963 0.3293 1.8070 4.1187	1.3864 1.0297 0.2843 1.7011 4.0543	1.4146 1.0574 0.2264 1.6182 4.0029	1.4354 1.0783 0.1574 1.5590 3.9655	1.4482 1.0913 0.0808 1.5237 3.9428	1.4526 1.0957 0.0000 1.5118 3.9350	
0.70	1.2773 0.9127 0.3816 2.0733 4.2814	1.3185 0.9537 0.3648 1.9296 4.1962	1.3571 0.9917 0.3334 1.8027 4.1185	1.3912 1.0252 0.2876 1.6964 4.0513	1.4191 1.0530 0.2288 1.6130 3.9969	1.4399 1.0739 0.1590 1.5535 3.9569	1.4525 1.0870 0.0816 1.5179 3.9325	1.4569 1.0913 0.0000 1.5059 3.9240	
0.75	1.2828 0.9078 0.3864 2.0685 4.2827	1.3237 0.9490 0.3692 1.9250 4.1968	1.3620 0.9871 0.3371 1.7980 4.1172	1.3959 1.0208 0.2906 1.6914 4.0474	1.4237 1.0487 0.2310 1.6075 3.9902	1.4443 1.0696 0.1604 1.5477 3.9476	1.4568 1.0827 0.0823 1.5118 3.9215	1.4612 1.0871 0.0000 1.4998 3.9125	
0.80	1.2882 0.9030 0.3910 2.0633 4.2828	1.3288 0.9444 0.3732 1.9201 4.1963	1.3668 0.9827 0.3405 1.7931 4.1149	1.4005 1.0164 0.2933 1.6861 4.0426	1.4281 1.0444 0.2330 1.6019 3.9826	1.4486 1.0554 0.1617 1.5415 3.9377	1.4611 1.0785 0.0829 1.5054 3.9099	1.4654 1.0829 0.0000 1.4933 3.9004	
0.85	1.2935 0.8982 0.3952 2.0578 4.2820	1.3338 0.9399 0.3770 1.9149 4.1948	1.3716 0.9783 0.3437 1.7878 4.1117	1.4050 1.0122 0.2958 1.6806 4.0359	1.4325 1.0402 0.2348 1.5959 3.9743	1.4529 1.0612 0.1629 1.5351 3.9271	1.4654 1.0743 0.0835 1.4988 3.8978	1.4697 1.0787 0.0000 1.4865 3.8877	
0.90	1.2986 0.8935 0.3992 2.0519 4.2801	1.3387 0.9354 0.3806 1.9094 4.1924	1.3762 0.9740 0.3467 1.7823 4.1076	1.4095 1.0079 0.2981 1.6747 4.0305	1.4369 1.0360 0.2364 1.5896 3.9653	1.4572 1.0571 0.1640 1.5284 3.9158	1.4696 1.0702 0.0840 1.4918 3.8851	1.4739 1.0746 0.0000 1.4794 3.8744	
0.95	1.3037 0.8889 0.4030 2.0456 4.2773	1.3435 0.9310 0.3838 1.9036 4.1890	1.3808 0.9698 0.3494 1.7764 4.1027	1.4139 1.0038 0.3002 1.6686 4.0233	1.4412 1.0319 0.2379 1.5830 3.9556	1.4615 1.0530 0.1649 1.5214 3.9039	1.4739 1.0661 0.0845 1.4845 3.8717	1.4782 1.0705 0.0000 1.4720 3.8606	
1.00	1.3088 0.8843 0.4065 2.0391 4.2736	1.3482 0.9267 0.3869 1.8974 4.1848	1.3853 0.9656 0.3519 1.7703 4.0970	1.4183 0.9997 0.3021 1.6621 4.0153	1.4455 1.0279 0.2393 1.5761 3.9452	1.4658 1.0490 0.1658 1.5141 3.8914	1.4782 1.0621 0.0849 1.4769 3.8578	1.4824 1.0665 0.0000 1.4643 3.8462	
F_x	1.1048	1.0974	1.0892	1.0808	1.0731	1.0667	1.0626	1.0612	

$$M_{\infty} = 5, \beta_{\kappa} = 45^{\circ}, \alpha = 2^{\circ}30'$$

ξ	θ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.00	0.8946	0.8950	0.8965	0.8988	0.9019	0.9058	0.9102	0.9149	0.9199
	0.8946	0.8950	0.8965	0.8988	0.9019	0.9058	0.9102	0.9149	0.9199
	0.0000	0.0107	0.0210	0.0305	0.0388	0.0456	0.0506	0.0537	0.0547
	3.0685	3.0640	3.0507	3.0292	3.0006	2.9660	2.9271	2.8854	2.8426
0.05	4.8822	4.8771	4.8619	4.8375	4.8048	4.7652	4.7204	4.6723	4.6227
	0.9034	0.9045	0.9078	0.9132	0.9205	0.9295	0.9398	0.9512	0.9632
	0.8858	0.8869	0.8902	0.8956	0.9031	0.9122	0.9227	0.9342	0.9463
	0.0000	0.0127	0.0249	0.0361	0.0460	0.0541	0.0602	0.0639	0.0652
0.10	3.0677	3.0632	3.0500	3.0285	2.9999	2.9654	2.9245	2.8848	2.8421
	4.8813	4.8788	4.8714	4.8596	4.8442	4.8262	4.8067	4.7870	4.7680
	0.9122	0.9133	0.9166	0.9220	0.9294	0.9384	0.9488	0.9601	0.9720
	0.8773	0.8784	0.8819	0.8875	0.8950	0.9043	0.9150	0.9267	0.9389
0.15	0.0000	0.0139	0.0272	0.0395	0.0504	0.0593	0.0661	0.0703	0.0718
	3.0656	3.0611	3.0479	3.0265	2.9979	2.9635	2.9245	2.8830	2.8404
	4.8789	4.8765	4.8695	4.8583	4.8436	4.8264	4.8077	4.7885	4.7699
	0.9207	0.9218	0.9252	0.9306	0.9380	0.9470	0.9573	0.9686	0.9805
0.20	0.8691	0.8703	0.8738	0.8795	0.8872	0.8966	0.9074	0.9192	0.9316
	0.0000	0.0148	0.0290	0.0421	0.0537	0.0633	0.0705	0.0750	0.0767
	3.0621	3.0577	3.0445	3.0232	2.9947	2.9603	2.9216	2.8801	2.8375
	4.8750	4.8727	4.8659	4.8551	4.8410	4.8243	4.8061	4.7873	4.7689
0.25	0.9291	0.9302	0.9336	0.9390	0.9463	0.9553	0.9656	0.9768	0.9886
	0.8512	0.8624	0.8660	0.8718	0.8796	0.8891	0.9000	0.9119	0.9244
	0.0000	0.0155	0.0304	0.0442	0.0564	0.0665	0.0741	0.0789	0.0807
	3.0575	3.0530	3.0399	3.0187	2.9903	2.9561	2.9174	2.8760	2.8335
0.30	4.8597	4.8675	4.8610	4.8505	4.8368	4.8206	4.8028	4.7843	4.7660
	0.9373	0.9385	0.9418	0.9472	0.9545	0.9634	0.9736	0.9848	0.9965
	0.8537	0.8549	0.8585	0.8643	0.8722	0.8818	0.8928	0.9049	0.9174
	0.0000	0.0161	0.0317	0.0460	0.0587	0.0692	0.0771	0.0822	0.0841
0.35	3.0518	3.0473	3.0343	3.0131	2.9849	2.9508	2.9123	2.8710	2.8286
	4.8632	4.8610	4.8547	4.8446	4.8312	4.8154	4.7979	4.7797	4.7616
	0.9454	0.9465	0.9498	0.9552	0.9625	0.9713	0.9815	0.9926	1.0042
	0.8463	0.8475	0.8512	0.8571	0.8650	0.8748	0.8859	0.8980	0.9107
0.40	0.0000	0.0167	0.0327	0.0476	0.0607	0.0716	0.0798	0.0850	0.0870
	3.0450	3.0406	3.0275	3.0066	2.9785	2.9445	2.9062	2.8650	2.8228
	4.8555	4.8534	4.8473	4.8374	4.8244	4.8089	4.7918	4.7738	4.7559
	0.9534	0.9545	0.9578	0.9631	0.9703	0.9791	0.9892	1.0002	1.0117
0.45	0.8392	0.8405	0.8441	0.8501	0.8581	0.8679	0.8792	0.8914	0.9041
	0.0000	0.0172	0.0337	0.0490	0.0625	0.0737	0.0822	0.0875	0.0896
	3.0374	3.0330	3.0201	2.9992	2.9712	2.9374	2.8992	2.8582	2.8161
	4.8468	4.8447	4.8388	4.8292	4.8165	4.8013	4.7845	4.7668	4.7490
0.50	0.9612	0.9623	0.9656	0.9709	0.9780	0.9868	0.9968	1.0077	1.0191
	0.8324	0.8336	0.8373	0.8433	0.8514	0.8613	0.8726	0.8849	0.8977
	0.0000	0.0176	0.0346	0.0503	0.0641	0.0756	0.0843	0.0898	0.0919
	3.0288	3.0245	3.0116	2.9908	2.9631	2.9294	2.8914	2.8507	2.8087
0.55	4.8370	4.8351	4.8292	4.8199	4.8075	4.7927	4.7761	4.7587	4.7411
	0.9689	0.9700	0.9733	0.9785	0.9856	0.9943	1.0043	1.0151	1.0264
	0.8257	0.8270	0.8307	0.8368	0.8449	0.8549	0.8663	0.8787	0.8916
	0.0000	0.0180	0.0354	0.0514	0.0656	0.0773	0.0862	0.0918	0.0940
0.60	3.0195	3.0152	3.0024	2.9818	2.9541	2.9207	2.8829	2.8423	2.8006
	4.8264	4.8244	4.8188	4.8097	4.7976	4.7830	4.7668	4.7496	4.7321
	0.9765	0.9776	0.9808	0.9861	0.9931	1.0017	1.0116	1.0223	1.0335
	0.8193	0.8205	0.8243	0.8304	0.8386	0.8487	0.8601	0.8726	0.8856
0.65	0.0000	0.0184	0.0361	0.0525	0.0669	0.0789	0.0880	0.0937	0.0959
	3.0094	3.0051	2.9924	2.9719	2.9445	2.9113	2.8737	2.8333	2.7918
	4.8148	4.8130	4.8075	4.7986	4.7867	4.7725	4.7565	4.7396	4.7223

$$M_{\infty} = 5, \beta_{\kappa} = 45^{\circ}, \alpha = 2^{\circ}30'$$

ξ	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.55	0.9840 0.8130 0.0000 2.9986 4.8025	0.9851 0.8143 0.0187 2.9943 4.8007	0.9883 0.8181 0.0368 2.9818 4.7953	0.9935 0.8242 0.0534 2.9614 4.7866	1.0005 0.8325 0.0682 2.9342 4.7751	1.0090 0.8426 0.0804 2.9012 4.7611	1.0188 0.8541 0.0896 2.8639 4.7454	1.0294 0.8667 0.0954 2.8237 4.7287	1.0406 0.8797 0.0976 2.7824 4.7116
0.60	0.9915 0.8069 0.0000 2.9871 4.7894	0.9925 0.8082 0.0190 2.9829 4.7876	0.9957 0.8120 0.0374 2.9704 4.7824	1.0008 0.8182 0.0543 2.9502 4.7739	1.0078 0.8265 0.0693 2.9232 4.7626	1.0162 0.8367 0.0817 2.8904 4.7490	1.0259 0.8483 0.0911 2.8534 4.7336	1.0365 0.8609 0.0970 2.8135 4.7170	1.0475 0.8741 0.0992 2.7724 4.7001
0.65	0.9988 0.8010 0.0000 2.9750 4.7755	0.9999 0.8023 0.0193 2.9708 4.7738	1.0030 0.8061 0.0380 2.9585 4.7687	1.0081 0.8123 0.0552 2.9384 4.7605	1.0150 0.8207 0.0704 2.9116 4.7494	1.0233 0.8310 0.0829 2.8791 4.7361	1.0329 0.8426 0.0924 2.8423 4.7209	1.0434 0.8553 0.0984 2.8027 4.7046	1.0543 0.8685 0.1007 2.7618 4.6879
0.70	1.0061 0.7952 0.0000 2.9623 4.7609	1.0071 0.7965 0.0196 2.9582 4.7593	1.0102 0.8003 0.0385 2.9459 4.7543	1.0153 0.8066 0.0560 2.9261 4.7463	1.0221 0.8151 0.0714 2.8995 4.7355	1.0304 0.8254 0.0841 2.8672 4.7224	1.0399 0.8371 0.0937 2.8307 4.7076	1.0503 0.8499 0.0998 2.7913 4.6915	1.0611 0.8631 0.1021 2.7507 4.6750
0.75	1.0133 0.7895 0.0000 2.9491 4.7457	1.0143 0.7908 0.0199 2.9450 4.7441	1.0174 0.7947 0.0390 2.9328 4.7393	1.0224 0.8010 0.0567 2.9131 4.7315	1.0291 0.8095 0.0723 2.8868 4.7209	1.0374 0.8199 0.0852 2.8548 4.7081	1.0468 0.8317 0.0949 2.8185 4.6936	1.0570 0.8445 0.1010 2.7794 4.6778	1.0678 0.8579 0.1033 2.7391 4.6614
0.80	1.0204 0.7840 0.0000 2.9353 4.7298	1.0214 0.7853 0.0201 2.9312 4.7283	1.0245 0.7892 0.0395 2.9192 4.7236	1.0294 0.7956 0.0574 2.8997 4.7160	1.0361 0.8041 0.0731 2.8735 4.7057	1.0443 0.8145 0.0862 2.8418 4.6932	1.0536 0.8264 0.0960 2.8058 4.6789	1.0638 0.8393 0.1022 2.7670 4.6633	1.0744 0.8527 0.1045 2.7270 4.6471
0.85	1.0275 0.7786 0.0000 2.9210 4.7134	1.0285 0.7799 0.0203 2.9169 4.7118	1.0315 0.7839 0.0399 2.9050 4.7073	1.0364 0.7902 0.0580 2.8857 4.6999	1.0430 0.7988 0.0739 2.8598 4.6898	1.0511 0.8093 0.0871 2.8284 4.6776	1.0604 0.8212 0.0970 2.7927 4.6636	1.0704 0.8342 0.1033 2.7542 4.6482	1.0810 0.8476 0.1056 2.7144 4.6322
0.90	1.0345 0.7733 0.0000 2.9061 4.6963	1.0355 0.7747 0.0205 2.9022 4.6948	1.0385 0.7786 0.0403 2.8904 4.6903	1.0434 0.7850 0.0586 2.8712 4.6831	1.0499 0.7936 0.0747 2.8456 4.6734	1.0579 0.8042 0.0880 2.8144 4.6614	1.0671 0.8161 0.0980 2.7791 4.6476	1.0771 0.8292 0.1043 2.7409 4.6326	1.0875 0.8427 0.1067 2.7014 4.6167
0.95	1.0415 0.7681 0.0000 2.8908 4.6786	1.0425 0.7695 0.0207 2.8869 4.6771	1.0455 0.7734 0.0407 2.8752 4.6728	1.0503 0.7799 0.0592 2.8563 4.6658	1.0567 0.7886 0.0754 2.8309 4.6563	1.0647 0.7991 0.0889 2.8000 4.6446	1.0738 0.8112 0.0989 2.7650 4.6311	1.0836 0.8242 0.1053 2.7271 4.6163	1.0940 0.8378 0.1076 2.6879 4.6007
1.00	1.0485 0.7630 0.0000 2.8750 4.6603	1.0495 0.7644 0.0209 2.8711 4.6589	1.0524 0.7684 0.0411 2.8596 4.6547	1.0571 0.7749 0.0597 2.8409 4.6479	1.0636 0.7836 0.0761 2.8157 4.6387	1.0714 0.7942 0.0896 2.7852 4.6272	1.0804 0.8063 0.0998 2.7504 4.6140	1.0902 0.8194 0.1062 2.7129 4.5994	1.1004 0.8331 0.1085 2.6740 4.5840
F_x	1.3775	1.3772	1.3763	1.3748	1.3728	1.3703	1.3674	1.3642	1.3607

$$M_{\infty} = 5, \beta_{\kappa} = 45^{\circ}, \alpha = 2^{\circ}30'$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.00	0.9249	0.9297	0.9342	0.9381	0.9412	0.9436	0.9451	1.0194	0.9456
	0.9249	0.9297	0.9342	0.9381	0.9412	0.9436	0.9451	1.0194	0.9456
	0.0535	0.0503	0.0452	0.0384	0.0301	0.0207	0.0105	0.0000	0.0000
	2.8006	2.7608	2.7246	2.6933	2.6680	2.6493	2.6379	2.6341	2.6341
0.05	4.5738	4.5272	4.4848	4.4480	4.4180	4.3959	4.3824	4.7016	4.3778
	0.9753	0.9872	0.9983	1.0081	1.0163	1.0224	1.0262	1.0275	
	0.9586	0.9706	0.9819	0.9918	1.0001	1.0063	1.0101	1.0114	
	0.0639	0.0602	0.0542	0.0462	0.0363	0.0250	0.0128	0.0000	
0.10	2.8001	2.7602	2.7241	2.6928	2.6674	2.6487	2.6373	2.6334	
	4.7508	4.7361	4.7240	4.7148	4.7083	4.7040	4.7016	4.7008	
	0.9841	0.9958	1.0067	1.0164	1.0244	1.0303	1.0340	1.0353	
	0.9513	0.9633	0.9745	0.9844	0.9926	0.9987	1.0025	1.0037	
0.15	0.0706	0.0666	0.0601	0.0512	0.0403	0.0278	0.0142	0.0000	
	2.7983	2.7585	2.7223	2.6910	2.6657	2.6470	2.6355	2.6316	
	4.7527	4.7376	4.7249	4.7149	4.7075	4.7024	4.6995	4.6985	
	0.9924	1.0040	1.0148	1.0243	1.0322	1.0380	1.0416	1.0429	
0.20	0.9440	0.9561	0.9673	0.9772	0.9854	0.9914	0.9952	0.9965	
	0.0755	0.0713	0.0644	0.0549	0.0433	0.0299	0.0153	0.0000	
	2.7955	2.7557	2.7195	2.6882	2.6628	2.6441	2.6327	2.6288	
	4.7517	4.7364	4.7233	4.7128	4.7048	4.6992	4.6960	4.6949	
0.25	1.0005	1.0119	1.0226	1.0320	1.0397	1.0455	1.0490	1.0503	
	0.9369	0.9491	0.9603	0.9702	0.9784	0.9845	0.9882	0.9895	
	0.0795	0.0751	0.0678	0.0579	0.0456	0.0315	0.0161	0.0000	
	2.7916	2.7518	2.7157	2.6844	2.6590	2.6403	2.6289	2.6250	
0.30	4.7489	4.7334	4.7200	4.7091	4.7007	4.6947	4.6912	4.6900	
	1.0083	1.0196	1.0302	1.0394	1.0471	1.0528	1.0563	1.0575	
	0.9300	0.9422	0.9535	0.9635	0.9716	0.9777	0.9815	0.9828	
	0.0828	0.0783	0.0707	0.0603	0.0476	0.0328	0.0168	0.0000	
0.35	2.7868	2.7471	2.7110	2.6797	2.6543	2.6356	2.6242	2.6203	
	4.7445	4.7289	4.7153	4.7040	4.6953	4.6890	4.6853	4.6840	
	1.0159	1.0271	1.0376	1.0467	1.0543	1.0599	1.0634	1.0646	
	0.9234	0.9356	0.9470	0.9569	0.9652	0.9713	0.9750	0.9763	
0.40	0.0857	0.0810	0.0732	0.0625	0.0492	0.0340	0.0174	0.0000	
	2.7810	2.7415	2.7054	2.6742	2.6489	2.6301	2.6187	2.6148	
	4.7388	4.7231	4.7093	4.6978	4.6888	4.6823	4.6784	4.6770	
	1.0233	1.0345	1.0448	1.0539	1.0613	1.0669	1.0703	1.0715	
0.45	0.9169	0.9292	0.9406	0.9506	0.9589	0.9650	0.9688	0.9701	
	0.0882	0.0834	0.0754	0.0643	0.0507	0.0350	0.0179	0.0000	
	2.7745	2.7350	2.6991	2.6679	2.6426	2.6239	2.6125	2.6086	
	4.7319	4.7162	4.7022	4.6905	4.6812	4.6745	4.6705	4.6691	
0.50	1.0306	1.0415	1.0519	1.0608	1.0682	1.0737	1.0771	1.0783	
	0.9106	0.9230	0.9345	0.9445	0.9528	0.9590	0.9628	0.9640	
	0.0905	0.0856	0.0773	0.0660	0.0520	0.0359	0.0183	0.0000	
	2.7673	2.7279	2.6920	2.6609	2.6357	2.6170	2.6056	2.6017	
0.55	4.7240	4.7082	4.6941	4.6822	4.6727	4.6659	4.6617	4.6603	
	1.0377	1.0487	1.0588	1.0677	1.0750	1.0805	1.0838	1.0850	
	0.9045	0.9170	0.9285	0.9385	0.9469	0.9531	0.9569	0.9582	
	0.0925	0.0875	0.0790	0.0674	0.0531	0.0367	0.0187	0.0000	
0.60	2.7593	2.7201	2.6843	2.6533	2.6281	2.6094	2.5980	2.5942	
	4.7151	4.6993	4.6851	4.6731	4.6634	4.6564	4.6521	4.6506	
	1.0448	1.0556	1.0657	1.0745	1.0817	1.0871	1.0904	1.0916	
	0.8986	0.9111	0.9227	0.9329	0.9412	0.9474	0.9513	0.9525	
0.65	0.0944	0.0893	0.0806	0.0688	0.0542	0.0374	0.0191	0.0000	
	2.7507	2.7116	2.6760	2.6450	2.6199	2.6013	2.5899	2.5860	
	4.7054	4.6895	4.6753	4.6631	4.6533	4.6461	4.6417	4.6402	

$$M_{\infty} = 5, \beta_{\kappa} = 45^{\circ}, \alpha = 2^{\circ}30'$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.55	1.0517 0.8928 0.0961 2.7415 4.6948	1.0624 0.9054 0.0908 2.7025 4.6789	1.0724 0.9171 0.0820 2.6670 4.6646	1.0811 0.9171 0.0700 2.6362 4.6523	1.0883 0.9357 0.0551 2.6111 4.6424	1.0936 0.9419 0.0380 2.5925 4.6350	1.0969 0.9457 0.0194 2.5812 4.6306	1.0980 0.9470 0.0000 2.5773 4.6291	
0.60	1.0585 0.8872 0.0977 2.7317 4.6834	1.0692 0.8999 0.0923 2.6929 4.6676	1.0790 0.9116 0.0833 2.6575 4.6532	1.0877 0.9218 0.0711 2.6268 4.6408	1.0948 0.9303 0.0560 2.6018 4.6307	1.1001 0.9365 0.0386 2.5833 4.6233	1.1033 0.9404 0.0197 2.5720 4.6188	1.1044 0.9417 0.0000 2.5681 4.6172	
0.65	1.0653 0.8817 0.0991 2.7213 4.6713	1.0758 0.8945 0.0937 2.6827 4.6555	1.0856 0.9062 0.0846 2.6475 4.6411	1.0941 0.9165 0.0721 2.6169 4.6286	1.1012 0.9250 0.0568 2.5920 4.6184	1.1064 0.9313 0.0392 2.5735 4.6109	1.1097 0.9352 0.0200 2.5622 4.6063	1.1108 0.9365 0.0000 2.5584 4.6047	
0.70	1.0719 0.8764 0.1004 2.7104 4.6585	1.0824 0.8892 0.0949 2.6720 4.6427	1.0921 0.9010 0.0857 2.6370 4.6283	1.1005 0.9114 0.0730 2.6065 4.6157	1.1075 0.9199 0.0575 2.5816 4.6055	1.1127 0.9262 0.0397 2.5633 4.5979	1.1159 0.9301 0.0203 2.5520 4.5932	1.1170 0.9314 0.0000 2.5482 4.5916	
0.75	1.0785 0.8712 0.1017 2.6991 4.6450	1.0889 0.8841 0.0961 2.6609 4.6293	1.0985 0.8959 0.0867 2.6260 4.6148	1.1069 0.9063 0.0739 2.5956 4.6022	1.1138 0.9149 0.0582 2.5709 4.5919	1.1190 0.9212 0.0402 2.5526 4.5842	1.1221 0.9251 0.0205 2.5413 4.5795	1.1232 0.9264 0.0000 2.5375 4.5779	
0.80	1.0850 0.8661 0.1028 2.6872 4.6309	1.0953 0.8790 0.0971 2.6492 4.6152	1.1048 0.8909 0.0877 2.6145 4.6008	1.1132 0.9014 0.0747 2.5843 4.5881	1.1200 0.9099 0.0588 2.5596 4.5777	1.1251 0.9163 0.0406 2.5414 4.5700	1.1283 0.9203 0.0207 2.5302 4.5652	1.1293 0.9216 0.0000 2.5264 4.5636	
0.85	1.0915 0.8611 0.1039 2.6749 4.6161	1.1017 0.8741 0.0981 2.6372 4.6005	1.1111 0.8860 0.0885 2.6026 4.5861	1.1194 0.8965 0.0755 2.5725 4.5734	1.1262 0.9051 0.0594 2.5480 4.5629	1.1313 0.9116 0.0410 2.5298 4.5551	1.1344 0.9155 0.0209 2.5187 4.5503	1.1354 0.9168 0.0000 2.5149 4.5487	
0.90	1.0979 0.8562 0.1049 2.6621 4.6008	1.1080 0.8693 0.0991 2.6246 4.5853	1.1174 0.8813 0.0894 2.5903 4.5709	1.1256 0.8918 0.0762 2.5603 4.5581	1.1323 0.9004 0.0600 2.5359 4.5476	1.1373 0.9069 0.0414 2.5178 4.5398	1.1404 0.9108 0.0211 2.5067 4.5349	1.1415 0.9122 0.0000 2.5030 4.5333	
0.95	1.1043 0.8514 0.1058 2.6489 4.5848	1.1143 0.8645 0.0999 2.6117 4.5694	1.1236 0.8766 0.0902 2.5775 4.5550	1.1317 0.8871 0.0768 2.5477 4.5423	1.1384 0.8958 0.0605 2.5234 4.5317	1.1434 0.9023 0.0417 2.5054 4.5238	1.1465 0.9062 0.0213 2.4944 4.5190	1.1475 0.9076 0.0000 2.4906 4.5173	
1.00	1.1107 0.8467 0.1067 2.6353 4.5683	1.1206 0.8598 0.1008 2.5983 4.5530	1.1298 0.8719 0.0909 2.5643 4.5386	1.1379 0.8826 0.0774 2.5347 4.5259	1.1445 0.8913 0.0609 2.5105 4.5153	1.1494 0.8978 0.0420 2.4926 4.5074	1.1525 0.9017 0.0215 2.4816 4.5024	1.1535 0.9031 0.0000 2.4779 4.5008	
F_x	1.3571	1.3535	1.3502	1.3472	1.3447	1.3428	1.3416	1.3412	

$$M_{\infty} = 7, \beta_{\kappa} = 10^{\circ}, \alpha = 2^{\circ}30'$$

ξ	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.00	2.2198 0.3914 0.0000 0.3581 2.7272	2.2201 0.3915 0.0157 0.3561 2.7165	2.2209 0.3916 0.0310 0.3503 2.6848	2.2222 0.3918 0.0454 0.3411 2.6340	2.2239 0.3921 0.0585 0.3289 2.5667	2.2261 0.3925 0.0698 0.3146 2.4864	2.2286 0.3930 0.0790 0.2989 2.3973	2.2313 0.3934 0.0855 0.2827 2.3036	2.2343 0.3940 0.0891 0.2667 2.2098
0.05	2.2211 0.3841 0.0000 0.3579 2.7257	2.2214 0.3842 0.0162 0.3560 2.7162	2.2224 0.3844 0.0320 0.3502 2.6882	2.2241 0.3847 0.0468 0.3410 2.6433	2.2264 0.3852 0.0602 0.3289 2.5837	2.2292 0.3858 0.0717 0.3147 2.5126	2.2324 0.3864 0.0810 0.2991 2.4336	2.2360 0.3872 0.0876 0.2829 2.3505	2.2399 0.3879 0.0911 0.2669 2.2672
0.10	2.2224 0.3770 0.0000 0.3575 2.7235	2.2227 0.3771 0.0165 0.3556 2.7142	2.2237 0.3774 0.0325 0.3499 2.6869	2.2254 0.3778 0.0475 0.3407 2.6429	2.2277 0.3783 0.0611 0.3287 2.5846	2.2306 0.3790 0.0727 0.3145 2.5148	2.2339 0.3797 0.0821 0.2990 2.4370	2.2375 0.3806 0.0887 0.2829 2.3549	2.2413 0.3815 0.0922 0.2669 2.2722
0.15	2.2236 0.3701 0.0000 0.3569 2.7199	2.2240 0.3702 0.0167 0.3550 2.7108	2.2250 0.3705 0.0328 0.3493 2.6840	2.2267 0.3709 0.0480 0.3402 2.6409	2.2290 0.3716 0.0616 0.3282 2.5834	2.2319 0.3723 0.0734 0.3142 2.5146	2.2352 0.3732 0.0827 0.2987 2.4377	2.2388 0.3742 0.0893 0.2826 2.3563	2.2427 0.3752 0.0927 0.2668 2.2741
0.20	2.2249 0.3634 0.0000 0.3560 2.7152	2.2252 0.3635 0.0168 0.3541 2.7062	2.2263 0.3638 0.0331 0.3485 2.6799	2.2280 0.3643 0.0483 0.3394 2.6373	2.2303 0.3650 0.0621 0.3276 2.5807	2.2332 0.3659 0.0738 0.3136 2.5128	2.2365 0.3669 0.0832 0.2982 2.4367	2.2401 0.3680 0.0897 0.2822 2.3559	2.2439 0.3691 0.0930 0.2664 2.2741
0.25	2.2261 0.3507 0.0000 0.3549 2.7092	2.2265 0.3569 0.0169 0.3530 2.7004	2.2275 0.3572 0.0333 0.3474 2.6744	2.2292 0.3578 0.0486 0.3385 2.6325	2.2316 0.3586 0.0624 0.3267 2.5767	2.2344 0.3596 0.0742 0.3128 2.5095	2.2377 0.3607 0.0834 0.2975 2.4341	2.2413 0.3619 0.0899 0.2816 2.3539	2.2451 0.3632 0.0931 0.2658 2.2724
0.30	2.2274 0.3503 0.0000 0.3536 2.7021	2.2277 0.3504 0.0170 0.3517 2.6935	2.2288 0.3508 0.0334 0.3462 2.6679	2.2305 0.3515 0.0488 0.3373 2.6265	2.2328 0.3524 0.0626 0.3256 2.5714	2.2356 0.3534 0.0744 0.3118 2.5050	2.2389 0.3547 0.0836 0.2966 2.4303	2.2425 0.3560 0.0900 0.2808 2.3507	2.2463 0.3574 0.0932 0.2651 2.2695
0.35	2.2286 0.3439 0.0000 0.3521 2.6940	2.2290 0.3441 0.0171 0.3503 2.6854	2.2300 0.3445 0.0336 0.3448 2.6602	2.2317 0.3452 0.0490 0.3360 2.6194	2.2340 0.3462 0.0628 0.3244 2.5650	2.2368 0.3474 0.0746 0.3107 2.4993	2.2401 0.3488 0.0838 0.2956 2.4253	2.2437 0.3502 0.0901 0.2799 2.3462	2.2474 0.3518 0.0933 0.2643 2.2654
0.40	2.2299 0.3376 0.0000 0.3505 2.6848	2.2302 0.3378 0.0171 0.3486 2.6764	2.2312 0.3383 0.0337 0.3432 2.6515	2.2329 0.3391 0.0492 0.3344 2.6112	2.2352 0.3402 0.0630 0.3230 2.5574	2.2380 0.3415 0.0747 0.3094 2.4925	2.2413 0.3430 0.0838 0.2944 2.4191	2.2448 0.3446 0.0900 0.2788 2.3406	2.2486 0.3462 0.0930 0.2633 2.2602
0.45	2.2311 0.3315 0.0000 0.3486 2.6746	2.2314 0.3317 0.0172 0.3468 2.6663	2.2325 0.3322 0.0338 0.3414 2.6418	2.2342 0.3331 0.0493 0.3327 2.6020	2.2364 0.3343 0.0631 0.3214 2.5489	2.2392 0.3357 0.0748 0.3079 2.4846	2.2425 0.3373 0.0839 0.2931 2.4120	2.2460 0.3390 0.0900 0.2776 2.3340	2.2497 0.3408 0.0929 0.2621 2.2540
0.50	2.2323 0.3254 0.0000 0.3465 2.6634	2.2327 0.3256 0.0172 0.3447 2.6552	2.2337 0.3262 0.0339 0.3394 2.6310	2.2354 0.3271 0.0494 0.3309 2.5919	2.2376 0.3284 0.0632 0.3196 2.5394	2.2404 0.3299 0.0749 0.3063 2.4758	2.2436 0.3317 0.0839 0.2916 2.4038	2.2471 0.3336 0.0899 0.2762 2.3264	2.2508 0.3355 0.0927 0.2608 2.2468

$$M_{\infty} = 7, \beta_{\infty} = 10^{\circ}, \alpha = 2^{\circ}30'$$

ξ	θ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.55	2.2336 0.3193 0.0000 0.3443 2.6512	2.2339 0.3196 0.0173 0.3425 2.6431	2.2349 0.3202 0.0340 0.3373 2.6193	2.2366 0.3212 0.0495 0.3218 2.5807	2.2389 0.3226 0.0633 0.3177 2.5288	2.2416 0.3243 0.0749 0.3045 2.4660	2.2448 0.3262 0.0839 0.2899 2.3947	2.2483 0.3282 0.0898 0.2746 2.3179	2.2520 0.3302 0.0925 0.2594 2.2387
0.60	2.2348 0.3133 0.0000 0.3419 2.6380	2.2352 0.3136 0.0173 0.3402 2.6301	2.2362 0.3143 0.0340 0.3350 2.6066	2.2378 0.3154 0.0496 0.3266 2.5685	2.2401 0.3169 0.0634 0.3156 2.5173	2.2428 0.3187 0.0750 0.3026 2.4552	2.2460 0.3207 0.0838 0.2881 2.3846	2.2494 0.3228 0.0897 0.2730 2.3084	2.2531 0.3250 0.0923 0.2578 2.2296
0.65	2.2361 0.3074 0.0000 0.3394 2.6239	2.2364 0.3076 0.0174 0.3376 2.6161	2.2374 0.3084 0.0341 0.3325 2.5929	2.2391 0.3096 0.0497 0.3242 2.5554	2.2413 0.3112 0.0635 0.3134 2.5049	2.2440 0.3131 0.0750 0.3005 2.4435	2.2471 0.3152 0.0838 0.2861 2.3735	2.2506 0.3175 0.0896 0.2711 2.2979	2.2542 0.3198 0.0921 0.2561 2.2196
0.70	2.2374 0.3014 0.0000 0.3366 2.6087	2.2377 0.3017 0.0174 0.3349 2.6011	2.2387 0.3025 0.0342 0.3298 2.5783	2.2403 0.3038 0.0497 0.3217 2.5412	2.2425 0.3051 0.0635 0.3110 2.4914	2.2452 0.3075 0.0750 0.2982 2.4307	2.2483 0.3098 0.0838 0.2840 2.3615	2.2518 0.3122 0.0895 0.2692 2.2865	2.2554 0.3146 0.0919 0.2543 2.2087
0.75	2.2387 0.2955 0.0000 0.3337 2.5926	2.2390 0.2958 0.0174 0.3320 2.5850	2.2400 0.2966 0.0342 0.3270 2.5625	2.2416 0.2980 0.0498 0.3190 2.5261	2.2438 0.2998 0.0636 0.3084 2.4769	2.2465 0.3020 0.0750 0.2958 2.4170	2.2495 0.3044 0.0837 0.2818 2.3485	2.2529 0.3069 0.0894 0.2671 2.2741	2.2565 0.3095 0.0916 0.2523 2.1968
0.80	2.2400 0.2895 0.0000 0.3306 2.5753	2.2403 0.2898 0.0175 0.3289 2.5678	2.2413 0.2907 0.0343 0.3240 2.5458	2.2429 0.2921 0.0499 0.3161 2.5098	2.2450 0.2941 0.0636 0.3056 2.4614	2.2477 0.2964 0.0750 0.2932 2.4022	2.2508 0.2989 0.0837 0.2794 2.3345	2.2541 0.3016 0.0892 0.2648 2.2607	2.2577 0.3043 0.0914 0.2501 2.1839
0.85	2.2413 0.2835 0.0000 0.3273 2.5569	2.2417 0.2838 0.0175 0.3257 2.5495	2.2426 0.2847 0.0344 0.3208 2.5278	2.2442 0.2863 0.0499 0.3130 2.4925	2.2463 0.2883 0.0637 0.3027 2.4447	2.2490 0.2908 0.0750 0.2904 2.3863	2.2520 0.2935 0.0836 0.2768 2.3193	2.2554 0.2963 0.0891 0.2624 2.2462	2.2589 0.2991 0.0912 0.2478 2.1699
0.90	2.2427 0.2774 0.0000 0.3238 2.5372	2.2430 0.2777 0.0175 0.3222 2.5300	2.2440 0.2787 0.0344 0.3174 2.5087	2.2455 0.2804 0.0500 0.3097 2.4739	2.2477 0.2825 0.0637 0.2996 2.4269	2.2503 0.2851 0.0751 0.2875 2.3692	2.2533 0.2879 0.0836 0.2740 2.3030	2.2566 0.2909 0.0890 0.2597 2.2306	2.2602 0.2938 0.0910 0.2454 2.1547
0.95	2.2441 0.2712 0.0000 0.3200 2.5162	2.2444 0.2716 0.0176 0.3185 2.5092	2.2454 0.2726 0.0345 0.3138 2.4882	2.2469 0.2743 0.0501 0.3062 2.4540	2.2490 0.2766 0.0638 0.2962 2.4077	2.2516 0.2793 0.0751 0.2843 2.3508	2.2546 0.2823 0.0835 0.2710 2.2854	2.2579 0.2853 0.0889 0.2569 2.2136	2.2614 0.2883 0.0908 0.2427 2.1383
1.00	2.2456 0.2649 0.0000 0.3161 2.4938	2.2459 0.2653 0.0176 0.3145 2.4869	2.2468 0.2664 0.0345 0.3099 2.4663	2.2484 0.2682 0.0501 0.3025 2.4327	2.2504 0.2706 0.0638 0.2927 2.3871	2.2530 0.2734 0.0751 0.2809 2.3310	2.2560 0.2765 0.0835 0.2678 2.2663	2.2593 0.2797 0.0888 0.2539 2.1952	2.2628 0.2828 0.0906 0.2398 2.1204
F_x	0.2333	0.2334	0.2338	0.2345	0.2355	0.2367	0.2382	0.2398	0.2417

$$M_{\infty} = 7, \beta_{\kappa} = 10^{\circ}, \alpha = 2^{\circ}30'$$

ξ	θ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.00	2.2373	2.2402	2.2430	2.2455	2.2476	2.2492	2.2502	2.2602	2.2505
	0.3945	0.3950	0.3955	0.3959	0.3963	0.3966	0.3968	0.3985	0.3968
	0.0894	0.0862	0.0792	0.0687	0.0549	0.0383	0.0197	0.0000	0.0000
	0.2516	0.2380	0.2262	0.2165	0.2091	0.2038	0.2006	0.1996	0.1996
0.05	2.1198	2.0371	1.9646	1.9041	1.8569	1.8232	1.8031	1.9065	1.7965
	2.2438	2.2477	2.2513	2.2546	2.2574	2.2595	2.2608	2.2613	
	0.3888	0.3895	0.3903	0.3910	0.3916	0.3920	0.3923	0.3924	
	0.0913	0.0878	0.0807	0.0700	0.0559	0.0390	0.0200	0.0000	
0.10	0.2519	0.2382	0.2264	0.2166	0.2091	0.2037	0.2006	0.1995	
	2.1875	2.1145	2.0508	1.9981	1.9573	1.9285	1.9115	1.9059	
	2.2453	2.2491	2.2527	2.2559	2.2586	2.2606	2.2619	2.2623	
	0.3824	0.3833	0.3841	0.3849	0.3856	0.3861	0.3864	0.3865	
0.15	0.0923	0.0887	0.0815	0.0706	0.0563	0.0393	0.0202	0.0000	
	0.2519	0.2382	0.2263	0.2166	0.2089	0.2035	0.2003	0.1993	
	2.1926	2.1192	2.0546	2.0006	1.9583	1.9281	1.9101	1.9041	
	2.2466	2.2504	2.2539	2.2571	2.2598	2.2617	2.2629	2.2634	
0.20	0.3762	0.3772	0.3782	0.3791	0.3798	0.3804	0.3808	0.3809	
	0.0927	0.0891	0.0817	0.0707	0.0564	0.0393	0.0202	0.0000	
	0.2517	0.2380	0.2261	0.2163	0.2086	0.2032	0.1999	0.1989	
	2.1946	2.1209	2.0556	2.0007	1.9574	1.9263	1.9076	1.9013	
0.25	2.2478	2.2516	2.2551	2.2582	2.2608	2.2628	2.2640	2.2644	
	0.3702	0.3714	0.3724	0.3734	0.3743	0.3749	0.3753	0.3755	
	0.0929	0.0892	0.0817	0.0706	0.0563	0.0392	0.0201	0.0000	
	0.2514	0.2377	0.2258	0.2159	0.2082	0.2027	0.1994	0.1983	
0.30	2.1946	2.1207	2.0549	1.9992	1.9551	1.9233	1.9041	1.8977	
	2.2490	2.2527	2.2562	2.2593	2.2619	2.2638	2.2650	2.2654	
	0.3644	0.3657	0.3669	0.3679	0.3688	0.3695	0.3700	0.3701	
	0.0929	0.0891	0.0815	0.0704	0.0561	0.0390	0.0200	0.0000	
0.35	0.2509	0.2372	0.2253	0.2154	0.2076	0.2021	0.1988	0.1977	
	2.1931	2.1189	2.0527	1.9965	1.9517	1.9193	1.8997	1.8932	
	2.2501	2.2539	2.2573	2.2604	2.2630	2.2649	2.2660	2.2664	
	0.3588	0.3602	0.3614	0.3626	0.3636	0.3643	0.3648	0.3650	
0.40	0.0928	0.0889	0.0813	0.0701	0.0558	0.0388	0.0199	0.0000	
	0.2502	0.2366	0.2246	0.2147	0.2069	0.2013	0.1980	0.1969	
	2.1903	2.1160	2.0494	1.9927	1.9473	1.9144	1.8945	1.8878	
	2.2513	2.2550	2.2584	2.2615	2.2640	2.2659	2.2671	2.2675	
0.45	0.3533	0.3548	0.3561	0.3574	0.3584	0.3592	0.3597	0.3599	
	0.0927	0.0886	0.0810	0.0698	0.0554	0.0385	0.0197	0.0000	
	0.2494	0.2358	0.2238	0.2139	0.2061	0.2005	0.1971	0.1960	
	2.1863	2.1119	2.0450	1.9879	1.9420	1.9087	1.8885	1.8817	
0.50	2.2524	2.2561	2.2595	2.2625	2.2651	2.2669	2.2681	2.2685	
	0.3479	0.3495	0.3509	0.3522	0.3534	0.3542	0.3547	0.3549	
	0.0925	0.0883	0.0806	0.0694	0.0551	0.0382	0.0196	0.0000	
	0.2484	0.2348	0.2229	0.2130	0.2051	0.1995	0.1961	0.1950	
0.55	2.1813	2.1068	2.0397	1.9821	1.9359	1.9021	1.8817	1.8748	
	2.2535	2.2571	2.2606	2.2636	2.2661	2.2680	2.2691	2.2695	
	0.3426	0.3443	0.3458	0.3472	0.3484	0.3493	0.3498	0.3500	
	0.0922	0.0880	0.0802	0.0690	0.0547	0.0380	0.0195	0.0000	
0.60	0.2473	0.2338	0.2219	0.2119	0.2040	0.1984	0.1950	0.1939	
	2.1752	2.1008	2.0334	1.9755	1.9289	1.8948	1.8741	1.8671	
	2.2546	2.2582	2.2616	2.2646	2.2671	2.2690	2.2701	2.2705	
	0.3374	0.3392	0.3408	0.3422	0.3435	0.3444	0.3449	0.3451	
0.65	0.0920	0.0877	0.0798	0.0686	0.0544	0.0377	0.0193	0.0000	
	0.2461	0.2326	0.2207	0.2107	0.2029	0.1972	0.1938	0.1926	
	2.1682	2.0938	2.0262	1.9680	1.9211	1.8867	1.8657	1.8587	

$$M_{\infty} = 7, \beta_K = 10^\circ, \alpha = 2^\circ 30'$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.55	2.2557	2.2593	2.2627	2.2657	2.2682	2.2700	2.2712	2.2716	
	0.3322	0.3341	0.3358	0.3373	0.3386	0.3395	0.3401	0.3403	
	0.0917	0.0873	0.0794	0.0682	0.0540	0.0374	0.0192	0.0000	
	0.2448	0.2313	0.2194	0.2095	0.2016	0.1959	0.1925	0.1913	
	2.1603	2.0859	2.0182	1.9597	1.9124	1.8777	1.8566	1.8494	
0.60	2.2568	2.2604	2.2638	2.2668	2.2693	2.2711	2.2723	2.2726	
	0.3271	0.3291	0.3309	0.3324	0.3337	0.3347	0.3353	0.3355	
	0.0914	0.0869	0.0790	0.0678	0.0536	0.0372	0.0190	0.0000	
	0.2433	0.2299	0.2180	0.2080	0.2001	0.1944	0.1910	0.1899	
	2.1515	2.0771	2.0093	1.9506	1.9030	1.8680	1.8466	1.8394	
0.65	2.2579	2.2615	2.2649	2.2679	2.2703	2.2722	2.2733	2.2737	
	0.3220	0.3241	0.3260	0.3276	0.3289	0.3298	0.3304	0.3306	
	0.0911	0.0866	0.0786	0.0674	0.0533	0.0369	0.0189	0.0000	
	0.2417	0.2283	0.2165	0.2065	0.1986	0.1929	0.1895	0.1883	
	2.1418	2.0675	1.9995	1.9406	1.8927	1.8574	1.8358	1.8286	
0.70	2.2590	2.2626	2.2660	2.2690	2.2714	2.2733	2.2745	2.2748	
	0.3170	0.3191	0.3211	0.3227	0.3240	0.3250	0.3256	0.3258	
	0.0908	0.0862	0.0782	0.0669	0.0529	0.0366	0.0187	0.0000	
	0.2399	0.2266	0.2148	0.2049	0.1970	0.1912	0.1878	0.1866	
	2.1311	2.0569	1.9889	1.9297	1.8815	1.8459	1.8242	1.8169	
0.75	2.2602	2.2638	2.2671	2.2701	2.2726	2.2744	2.2756	2.2760	
	0.3119	0.3142	0.3161	0.3178	0.3191	0.3201	0.3206	0.3208	
	0.0905	0.0858	0.0778	0.0666	0.0526	0.0364	0.0186	0.0000	
	0.2380	0.2248	0.2130	0.2031	0.1952	0.1894	0.1859	0.1848	
	2.1195	2.0454	1.9773	1.9178	1.8694	1.8335	1.8116	1.8042	
0.80	2.2613	2.2649	2.2683	2.2713	2.2737	2.2756	2.2768	2.2772	
	0.3068	0.3091	0.3111	0.3128	0.3141	0.3151	0.3156	0.3158	
	0.0902	0.0855	0.0774	0.0662	0.0522	0.0361	0.0185	0.0000	
	0.2360	0.2228	0.2111	0.2012	0.1932	0.1875	0.1840	0.1828	
	2.1069	2.0328	1.9646	1.9050	1.8562	1.8201	1.7979	1.7904	
0.85	2.2625	2.2661	2.2695	2.2724	2.2750	2.2768	2.2780	2.2784	
	0.3017	0.3041	0.3061	0.3078	0.3090	0.3099	0.3105	0.3106	
	0.0899	0.0851	0.0770	0.0658	0.0519	0.0359	0.0183	0.0000	
	0.2338	0.2207	0.2090	0.1991	0.1911	0.1854	0.1819	0.1807	
	2.0932	2.0192	1.9509	1.8910	1.8419	1.8054	1.7830	1.7754	
0.90	2.2638	2.2673	2.2707	2.2737	2.2762	2.2781	2.2793	2.2797	
	0.2965	0.2989	0.3009	0.3026	0.3038	0.3046	0.3051	0.3053	
	0.0896	0.0848	0.0766	0.0654	0.0516	0.0356	0.0182	0.0000	
	0.2314	0.2184	0.2068	0.1968	0.1889	0.1831	0.1795	0.1784	
	2.0783	2.0044	1.9360	1.8758	1.8262	1.7894	1.7667	1.7591	
0.95	2.2650	2.2686	2.2720	2.2750	2.2775	2.2795	2.2807	2.2811	
	0.2911	0.2936	0.2956	0.2972	0.2983	0.2991	0.2996	0.2997	
	0.0893	0.0844	0.0762	0.0650	0.0513	0.0354	0.0181	0.0000	
	0.2288	0.2159	0.2043	0.1944	0.1864	0.1805	0.1770	0.1758	
	2.0622	1.9883	1.9197	1.8591	1.8091	1.7718	1.7488	1.7410	
1.00	2.2664	2.2699	2.2733	2.2764	2.2790	2.2809	2.2822	2.2826	
	0.2856	0.2881	0.2901	0.2916	0.2926	0.2933	0.2936	0.2937	
	0.0891	0.0841	0.0759	0.0647	0.0509	0.0352	0.0179	0.0000	
	0.2261	0.2132	0.2016	0.1916	0.1836	0.1777	0.1741	0.1729	
	2.0445	1.9706	1.9017	1.8406	1.7900	1.7522	1.7287	1.7208	
F_x	0.2436	0.2455	0.2474	0.2492	0.2507	0.2518	0.2526	0.2528	

$$M_{\infty} = 7, \beta_k = 10^\circ, \alpha = 5^\circ$$

ξ	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.00	2.1932 0.3867 0.0000 0.4647 3.1275	2.1937 0.3868 0.0292 0.4599 3.1043	2.1952 0.3871 0.0578 0.4459 3.0364	2.1976 0.3875 0.0850 0.4237 2.9280	2.2009 0.3881 0.1104 0.3952 2.7858	2.2051 0.3888 0.1332 0.3624 2.6184	2.2099 0.3897 0.1526 0.3274 2.4354	2.2154 0.3906 0.1681 0.2924 2.2466	2.2213 0.3917 0.1786 0.2594 2.0620
0.05	2.1946 0.3791 0.0000 0.4645 3.1267	2.1952 0.3793 0.0300 0.4598 3.1059	2.1971 0.3797 0.0593 0.4459 3.0448	2.2001 0.3803 0.0872 0.4239 2.9469	2.2043 0.3812 0.1129 0.3956 2.8182	2.2094 0.3823 0.1357 0.3630 2.6657	2.2155 0.3836 0.1550 0.3283 2.4985	2.2223 0.3850 0.1700 0.2935 2.3248	2.2297 0.3866 0.1798 0.2605 2.1545
0.10	2.1959 0.3717 0.0000 0.4641 3.1244	2.1966 0.3719 0.0306 0.4593 3.1043	2.1985 0.3723 0.0604 0.4456 3.0452	2.2016 0.3731 0.0886 0.4238 2.9505	2.2059 0.3742 0.1146 0.3957 2.8257	2.2112 0.3755 0.1376 0.3634 2.6775	2.2175 0.3771 0.1568 0.3289 2.5144	2.2244 0.3788 0.1717 0.2943 2.3444	2.2319 0.3807 0.1813 0.2615 2.1769
0.15	2.1973 0.3644 0.0000 0.4633 3.1207	2.1979 0.3646 0.0310 0.4586 3.1012	2.1999 0.3652 0.0612 0.4450 3.0438	2.2031 0.3661 0.0898 0.4234 2.9516	2.2074 0.3674 0.1159 0.3956 2.8299	2.2128 0.3690 0.1390 0.3635 2.6852	2.2191 0.3708 0.1581 0.3293 2.5253	2.2261 0.3729 0.1729 0.2949 2.3581	2.2336 0.3750 0.1821 0.2622 2.1926
0.20	2.1986 0.3573 0.0000 0.4623 3.1157	2.1992 0.3575 0.0314 0.4576 3.0967	2.2012 0.3582 0.0619 0.4441 3.0408	2.2044 0.3593 0.0907 0.4228 2.9509	2.2088 0.3608 0.1170 0.3952 2.8319	2.2142 0.3626 0.1401 0.3634 2.6901	2.2205 0.3647 0.1592 0.3295 2.5331	2.2275 0.3671 0.1737 0.2954 2.3683	2.2350 0.3695 0.1826 0.2629 2.2045
0.25	2.1999 0.3503 0.0000 0.4610 3.1095	2.2006 0.3505 0.0317 0.4564 3.0909	2.2025 0.3513 0.0625 0.4430 3.0363	2.2058 0.3526 0.0915 0.4219 2.9485	2.2102 0.3543 0.1179 0.3947 2.8321	2.2156 0.3564 0.1411 0.3632 2.6931	2.2219 0.3588 0.1600 0.3295 2.5386	2.2289 0.3615 0.1742 0.2956 2.3761	2.2363 0.3642 0.1828 0.2633 2.2137
0.30	2.2012 0.3434 0.0000 0.4594 3.1020	2.2019 0.3437 0.0320 0.4549 3.0839	2.2039 0.3446 0.0630 0.4417 3.0305	2.2071 0.3460 0.0922 0.4208 2.9447	2.2115 0.3479 0.1188 0.3938 2.8307	2.2169 0.3503 0.1419 0.3627 2.6943	2.2232 0.3531 0.1606 0.3293 2.5423	2.2301 0.3560 0.1746 0.2957 2.3818	2.2376 0.3591 0.1829 0.2636 2.2208
0.35	2.2025 0.3366 0.0000 0.4576 3.0933	2.2032 0.3370 0.0322 0.4531 3.0756	2.2052 0.3379 0.0635 0.4401 3.0235	2.2084 0.3395 0.0929 0.4195 2.9396	2.2128 0.3417 0.1195 0.3928 2.8280	2.2182 0.3444 0.1426 0.3620 2.6940	2.2244 0.3474 0.1612 0.3290 2.5444	2.2313 0.3508 0.1749 0.2956 2.3859	2.2387 0.3542 0.1829 0.2637 2.2262
0.40	2.2038 0.3299 0.0000 0.4556 3.0835	2.2045 0.3303 0.0325 0.4512 3.0663	2.2065 0.3314 0.0640 0.4383 3.0154	2.2097 0.3332 0.0935 0.4179 2.9333	2.2140 0.3356 0.1202 0.3916 2.8239	2.2194 0.3386 0.1432 0.3611 2.6924	2.2256 0.3420 0.1617 0.3284 2.5451	2.2325 0.3456 0.1751 0.2954 2.3885	2.2398 0.3494 0.1827 0.2637 2.2301
0.45	2.2051 0.3233 0.0000 0.4533 3.0726	2.2058 0.3237 0.0327 0.4490 3.0558	2.2078 0.3250 0.0644 0.4363 3.0060	2.2110 0.3269 0.0941 0.4162 2.9258	2.2153 0.3296 0.1208 0.3902 2.8186	2.2206 0.3329 0.1438 0.3601 2.6895	2.2268 0.3366 0.1621 0.3277 2.5445	2.2336 0.3406 0.1753 0.2950 2.3898	2.2409 0.3447 0.1825 0.2635 2.2326
0.50	2.2065 0.3168 0.0000 0.4508 3.0606	2.2071 0.3173 0.0330 0.4466 3.0442	2.2091 0.3186 0.0648 0.4341 2.9956	2.2122 0.3208 0.0947 0.4143 2.9171	2.2165 0.3237 0.1214 0.3886 2.8122	2.2218 0.3273 0.1443 0.3589 2.6855	2.2280 0.3313 0.1624 0.3269 2.5427	2.2347 0.3357 0.1754 0.2945 2.3899	2.2419 0.3401 0.1822 0.2632 2.2340

$$M_{\infty} = 7, \beta_{\kappa} = 10^{\circ}, \alpha = 5^{\circ}$$

ξ	θ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.55	2.2078	2.2084	2.2104	2.2135	2.2178	2.2230	2.2291	2.2358	2.2429
	0.3103	0.3108	0.3123	0.3147	0.3179	0.3218	0.3262	0.3309	0.3357
	0.0000	0.0332	0.0652	0.0952	0.1220	0.1448	0.1627	0.1754	0.1820
	0.4482	0.4439	0.4316	0.4121	0.3868	0.3575	0.3259	0.2938	0.2628
	3.0475	3.0315	2.9841	2.9074	2.8047	2.6803	2.5397	2.3888	2.2342
0.60	2.2091	2.2097	2.2117	2.2148	2.2190	2.2242	2.2302	2.2368	2.2439
	0.3039	0.3044	0.3060	0.3086	0.3121	0.3163	0.3211	0.3262	0.3313
	0.0000	0.0334	0.0656	0.0957	0.1225	0.1453	0.1630	0.1754	0.1816
	0.4452	0.4411	0.4290	0.4098	0.3849	0.3559	0.3247	0.2930	0.2623
	3.0334	3.0178	2.9715	2.8966	2.7960	2.6740	2.5357	2.3867	2.2334
0.65	2.2104	2.2111	2.2130	2.2161	2.2202	2.2254	2.2313	2.2379	2.2449
	0.2975	0.2981	0.2998	0.3026	0.3064	0.3109	0.3161	0.3215	0.3270
	0.0000	0.0336	0.0660	0.0962	0.1230	0.1457	0.1633	0.1755	0.1813
	0.4421	0.4381	0.4261	0.4072	0.3827	0.3542	0.3234	0.2920	0.2616
	3.0182	3.0030	2.9579	2.8847	2.7863	2.6667	2.5306	2.3835	2.2316
0.70	2.2118	2.2124	2.2143	2.2173	2.2215	2.2265	2.2324	2.2389	2.2459
	0.2911	0.2917	0.2936	0.2966	0.3007	0.3056	0.3111	0.3169	0.3227
	0.0000	0.0338	0.0664	0.0967	0.1235	0.1461	0.1636	0.1754	0.1810
	0.4388	0.4348	0.4231	0.4045	0.3804	0.3523	0.3219	0.2909	0.2608
	3.0019	2.9871	2.9431	2.8717	2.7756	2.6583	2.5244	2.3793	2.2288
0.75	2.2132	2.2138	2.2156	2.2186	2.2227	2.2277	2.2335	2.2400	2.2469
	0.2847	0.2854	0.2874	0.2906	0.2950	0.3003	0.3062	0.3124	0.3185
	0.0000	0.0340	0.0667	0.0971	0.1240	0.1465	0.1638	0.1754	0.1806
	0.4352	0.4313	0.4198	0.4016	0.3779	0.3502	0.3203	0.2897	0.2599
	2.9845	2.9701	2.9273	2.8577	2.7637	2.6488	2.5173	2.3742	2.2250
0.80	2.2146	2.2152	2.2170	2.2199	2.2240	2.2289	2.2347	2.2410	2.2478
	0.2783	0.2790	0.2812	0.2847	0.2893	0.2950	0.3012	0.3079	0.3144
	0.0000	0.0342	0.0671	0.0976	0.1245	0.1470	0.1640	0.1754	0.1803
	0.4315	0.4276	0.4163	0.3984	0.3752	0.3480	0.3185	0.2883	0.2588
	2.9660	2.9520	2.9103	2.8425	2.7508	2.6383	2.5091	2.3680	2.2203
0.85	2.2160	2.2166	2.2184	2.2213	2.2252	2.2301	2.2358	2.2420	2.2488
	0.2718	0.2726	0.2749	0.2787	0.2836	0.2896	0.2963	0.3034	0.3102
	0.0000	0.0344	0.0674	0.0980	0.1250	0.1474	0.1643	0.1754	0.1800
	0.4274	0.4237	0.4126	0.3951	0.3723	0.3456	0.3166	0.2868	0.2576
	2.9462	2.9326	2.8922	2.8262	2.7367	2.6267	2.4998	2.3608	2.2146
0.90	2.2174	2.2180	2.2198	2.2226	2.2265	2.2313	2.2369	2.2431	2.2498
	0.2653	0.2662	0.2686	0.2726	0.2779	0.2843	0.2914	0.2988	0.3061
	0.0000	0.0346	0.0678	0.0985	0.1254	0.1478	0.1645	0.1754	0.1797
	0.4232	0.4195	0.4087	0.3915	0.3692	0.3430	0.3144	0.2851	0.2563
	2.9252	2.9120	2.8728	2.8087	2.7214	2.6139	2.4895	2.3526	2.2080
0.95	2.2189	2.2195	2.2212	2.2240	2.2278	2.2326	2.2381	2.2442	2.2508
	0.2588	0.2597	0.2623	0.2665	0.2722	0.2790	0.2865	0.2943	0.3019
	0.0000	0.0348	0.0681	0.0989	0.1259	0.1482	0.1648	0.1754	0.1794
	0.4187	0.4151	0.4045	0.3877	0.3658	0.3402	0.3122	0.2833	0.2548
	2.9029	2.8901	2.8521	2.7898	2.7049	2.6000	2.4780	2.3433	2.2003
1.00	2.2204	2.2210	2.2227	2.2254	2.2292	2.2338	2.2393	2.2453	2.2518
	0.2521	0.2531	0.2558	0.2603	0.2663	0.2735	0.2815	0.2897	0.2977
	0.0000	0.0349	0.0685	0.0994	0.1264	0.1486	0.1650	0.1754	0.1791
	0.4139	0.4104	0.4001	0.3837	0.3623	0.3371	0.3097	0.2813	0.2532
	2.8791	2.8668	2.8299	2.7696	2.6871	2.5847	2.4653	2.3329	2.1915
F_x	0.2285	0.2287	0.2294	0.2306	0.2323	0.2345	0.2372	0.2404	0.2440

$$M_{\infty} = 7, \beta_{\kappa} = 10^{\circ}, \alpha = 5^{\circ}$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.00	2.2275 0.3928 0.1834 0.2296 1.8898	2.2338 0.3939 0.1801 0.2043 1.7386	2.2398 0.3949 0.1701 0.1839 1.6133	2.2453 0.3959 0.1504 0.1689 1.5179	2.2500 0.3967 0.1224 0.1586 1.4512	2.2536 0.3974 0.0861 0.1522 1.4090	2.2557 0.3977 0.0443 0.1489 1.3875	2.2745 0.4010 0.0000 0.1479 1.5546	2.2565 0.3979 0.0000 0.1479 1.3804
0.05	2.2374 0.3882 0.1840 0.2307 1.9952	2.2452 0.3898 0.1809 0.2054 1.8558	2.2528 0.3914 0.1702 0.1849 1.7416	2.2600 0.3930 0.1506 0.1697 1.6573	2.2662 0.3944 0.1226 0.1591 1.6023	2.2711 0.3956 0.0869 0.1524 1.5713	2.2742 0.3964 0.0451 0.1490 1.5584	2.2753 0.3966 0.0000 0.1478 1.5544	
0.10	2.2396 0.3826 0.1851 0.2318 2.0192	2.2475 0.3845 0.1817 0.2064 1.8799	2.2550 0.3864 0.1709 0.1858 1.7642	2.2620 0.3882 0.1511 0.1703 1.6764	2.2679 0.3897 0.1230 0.1595 1.6161	2.2724 0.3911 0.0872 0.1525 1.5785	2.2751 0.3921 0.0452 0.1489 1.5596	2.2760 0.3925 0.0000 0.1477 1.5532	
0.15	2.2413 0.3772 0.1856 0.2326 2.0359	2.2491 0.3794 0.1819 0.2072 1.8962	2.2566 0.3814 0.1708 0.1865 1.7787	2.2634 0.3835 0.1508 0.1708 1.6878	2.2690 0.3852 0.1225 0.1597 1.6233	2.2733 0.3869 0.0867 0.1525 1.5813	2.2759 0.3881 0.0449 0.1487 1.5591	2.2768 0.3885 0.0000 0.1474 1.5515	
0.20	2.2427 0.3720 0.1857 0.2333 2.0484	2.2505 0.3744 0.1816 0.2077 1.9083	2.2578 0.3767 0.1702 0.1871 1.7892	2.2645 0.3790 0.1499 0.1712 1.6955	2.2701 0.3809 0.1215 0.1599 1.6275	2.2742 0.3828 0.0859 0.1524 1.5822	2.2767 0.3841 0.0444 0.1485 1.5575	2.2775 0.3846 0.0000 0.1471 1.5491	
0.25	2.2440 0.3670 0.1856 0.2339 2.0582	2.2517 0.3697 0.1810 0.2084 1.9176	2.2590 0.3722 0.1693 0.1875 1.7970	2.2655 0.3747 0.1488 0.1714 1.7008	2.2710 0.3767 0.1204 0.1599 1.6299	2.2750 0.3788 0.0850 0.1522 1.5818	2.2774 0.3803 0.0439 0.1481 1.5552	2.2783 0.3808 0.0000 0.1467 1.5461	
0.30	2.2452 0.3622 0.1853 0.2343 2.0659	2.2528 0.3651 0.1803 0.2088 1.9248	2.2600 0.3679 0.1683 0.1878 1.8028	2.2665 0.3705 0.1476 0.1716 1.7044	2.2719 0.3726 0.1191 0.1598 1.6308	2.2758 0.3749 0.0840 0.1520 1.5803	2.2782 0.3765 0.0433 0.1477 1.5522	2.2790 0.3770 0.0000 0.1463 1.5425	
0.35	2.2463 0.3575 0.1848 0.2345 2.0719	2.2538 0.3607 0.1795 0.2091 1.9303	2.2610 0.3637 0.1672 0.1880 1.8070	2.2674 0.3665 0.1462 0.1716 1.7066	2.2727 0.3687 0.1178 0.1596 1.6307	2.2766 0.3711 0.0830 0.1516 1.5780	2.2790 0.3728 0.0427 0.1472 1.5485	2.2798 0.3733 0.0000 0.1457 1.5383	
0.40	2.2473 0.3530 0.1843 0.2346 2.0763	2.2548 0.3565 0.1786 0.2092 1.9344	2.2619 0.3596 0.1659 0.1881 1.8099	2.2682 0.3626 0.1448 0.1715 1.7077	2.2735 0.3649 0.1165 0.1593 1.6295	2.2774 0.3673 0.0820 0.1511 1.5750	2.2798 0.3691 0.0422 0.1466 1.5441	2.2806 0.3697 0.0000 0.1451 1.5335	
0.45	2.2483 0.3487 0.1837 0.2346 2.0794	2.2558 0.3524 0.1776 0.2092 1.9372	2.2628 0.3557 0.1647 0.1880 1.8117	2.2691 0.3588 0.1434 0.1713 1.7077	2.2744 0.3611 0.1152 0.1589 1.6274	2.2783 0.3636 0.0810 0.1506 1.5711	2.2806 0.3654 0.0416 0.1459 1.5391	2.2814 0.3660 0.0000 0.1443 1.5281	
0.50	2.2493 0.3444 0.1830 0.2345 2.0814	2.2567 0.3483 0.1766 0.2091 1.9339	2.2636 0.3519 0.1634 0.1879 1.8123	2.2699 0.3551 0.1420 0.1711 1.7068	2.2752 0.3573 0.1139 0.1585 1.6245	2.2791 0.3599 0.0800 0.1499 1.5666	2.2814 0.3617 0.0411 0.1452 1.5335	2.2822 0.3623 0.0000 0.1435 1.5220	

$$M_{\infty} = 7, \beta_{\kappa} = 10^{\circ}, \alpha = 5^{\circ}$$

ξ	θ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.55	2.2503 0.3402 0.1824 0.2342 2.0822	2.2576 0.3444 0.1756 0.2089 1.9395	2.2645 0.3481 0.1621 0.1876 1.8121	2.2708 0.3515 0.1405 0.1707 1.7051	2.2760 0.3536 0.1126 0.1579 1.6208	2.2799 0.3561 0.0790 0.1492 1.5613	2.2822 0.3580 0.0406 0.1443 1.5272	2.2830 0.3586 0.0000 0.1427 1.5153	
0.60	2.2512 0.3362 0.1817 0.2338 2.0821	2.2585 0.3406 0.1746 0.2086 1.9392	2.2653 0.3444 0.1609 0.1873 1.8109	2.2716 0.3479 0.1391 0.1702 1.7024	2.2769 0.3499 0.1113 0.1572 1.6163	2.2808 0.3524 0.0781 0.1483 1.5552	2.2831 0.3543 0.0401 0.1434 1.5201	2.2839 0.3548 0.0000 0.1417 1.5079	
0.65	2.2521 0.3322 0.1810 0.2333 2.0810	2.2593 0.3368 0.1735 0.2082 1.9379	2.2662 0.3408 0.1596 0.1868 1.8088	2.2724 0.3443 0.1378 0.1696 1.6990	2.2778 0.3462 0.1101 0.1564 1.6109	2.2817 0.3486 0.0772 0.1474 1.5483	2.2840 0.3505 0.0396 0.1423 1.5123	2.2848 0.3510 0.0000 0.1406 1.4998	
0.70	2.2530 0.3282 0.1803 0.2327 2.0789	2.2602 0.3331 0.1725 0.2076 1.9358	2.2670 0.3372 0.1583 0.1862 1.8059	2.2733 0.3407 0.1364 0.1689 1.6948	2.2787 0.3425 0.1088 0.1555 1.6047	2.2826 0.3448 0.0763 0.1464 1.5406	2.2849 0.3466 0.0391 0.1412 1.5036	2.2858 0.3471 0.0000 0.1394 1.4907	
0.75	2.2539 0.3244 0.1796 0.2320 2.0759	2.2611 0.3294 0.1715 0.2070 1.9327	2.2679 0.3336 0.1571 0.1856 1.8022	2.2741 0.3371 0.1351 0.1682 1.6898	2.2796 0.3387 0.1076 0.1545 1.5977	2.2835 0.3409 0.0754 0.1452 1.5320	2.2859 0.3425 0.0387 0.1399 1.4940	2.2868 0.3430 0.0000 0.1381 1.4807	
0.80	2.2549 0.3205 0.1789 0.2312 2.0720	2.2620 0.3257 0.1705 0.2062 1.9288	2.2687 0.3301 0.1559 0.1848 1.7976	2.2750 0.3335 0.1338 0.1673 1.6839	2.2805 0.3348 0.1065 0.1534 1.5896	2.2846 0.3368 0.0746 0.1439 1.5223	2.2870 0.3383 0.0382 0.1385 1.4832	2.2878 0.3387 0.0000 0.1367 1.4696	
0.85	2.2558 0.3166 0.1783 0.2302 2.0672	2.2628 0.3220 0.1696 0.2054 1.9240	2.2696 0.3265 0.1547 0.1839 1.7922	2.2759 0.3298 0.1325 0.1663 1.6771	2.2815 0.3308 0.1053 0.1522 1.5805	2.2856 0.3325 0.0738 0.1424 1.5114	2.2881 0.3339 0.0378 0.1369 1.4712	2.2890 0.3342 0.0000 0.1350 1.4570	
0.90	2.2567 0.3128 0.1776 0.2291 2.0615	2.2637 0.3184 0.1686 0.2044 1.9183	2.2705 0.3229 0.1536 0.1829 1.7858	2.2768 0.3261 0.1312 0.1651 1.6693	2.2826 0.3266 0.1042 0.1507 1.5701	2.2868 0.3280 0.0730 0.1408 1.4989	2.2893 0.3292 0.0374 0.1352 1.4574	2.2902 0.3294 0.0000 0.1332 1.4427	
0.95	2.2576 0.3089 0.1770 0.2279 2.0548	2.2647 0.3146 0.1677 0.2032 1.9117	2.2714 0.3192 0.1524 0.1818 1.7785	2.2778 0.3222 0.1300 0.1639 1.6604	2.2837 0.3222 0.1031 0.1491 1.5582	2.2881 0.3231 0.0722 0.1389 1.4845	2.2907 0.3240 0.0370 0.1331 1.4414	2.2917 0.3240 0.0000 0.1310 1.4261	
1.00	2.2586 0.3050 0.1764 0.2265 2.0470	2.2656 0.3108 0.1668 0.2020 1.9039	2.2724 0.3154 0.1513 0.1805 1.7700	2.2789 0.3182 0.1287 0.1624 1.6503	2.2850 0.3174 0.1020 0.1472 1.5443	2.2895 0.3177 0.0714 0.1367 1.4675	2.2923 0.3180 0.0366 0.1306 1.4222	2.2933 0.3179 0.0000 0.1285 1.4059	
F_x	0.2482	0.2525	0.2572	0.2614	0.2660	0.2691	0.2712	0.2719	

$$M_{\infty} = 7, \beta_{\kappa} = 15^{\circ}, \alpha = 5^{\circ}$$

ξ	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.00	2.0796	2.0802	2.0819	2.0849	2.0889	2.0938	2.0996	2.1061	2.1131
	0.5572	0.5574	0.5579	0.5586	0.5597	0.5610	0.5626	0.5643	0.5662
	0.0000	0.0248	0.0489	0.0716	0.0925	0.1107	0.1256	0.1366	0.1430
	0.7506	0.7444	0.7259	0.6967	0.6586	0.6142	0.5661	0.5171	0.4695
	3.8496	3.8266	3.7587	3.6499	3.5063	3.3357	3.1471	2.9498	2.7533
0.05	2.0814	2.0824	2.0851	2.0896	2.0958	2.1034	2.1123	2.1223	2.1329
	0.5502	0.5505	0.5513	0.5526	0.5543	0.5565	0.5590	0.5618	0.5649
	0.0000	0.0266	0.0524	0.0766	0.0986	0.1176	0.1328	0.1438	0.1499
	0.7505	0.7442	0.7259	0.6967	0.6588	0.6145	0.5666	0.5176	0.4701
	3.8490	3.8306	3.7764	3.6893	3.5741	3.4368	3.2847	3.1256	2.9678
0.10	2.0833	2.0843	2.0872	2.0918	2.0982	2.1060	2.1152	2.1253	2.1361
	0.5433	0.5436	0.5444	0.5459	0.5478	0.5502	0.5530	0.5560	0.5593
	0.0000	0.0278	0.0547	0.0800	0.1029	0.1226	0.1384	0.1497	0.1560
	0.7499	0.7437	0.7254	0.6965	0.6587	0.6146	0.5668	0.5180	0.4705
	3.8469	3.8294	3.7775	3.6942	3.5835	3.4513	3.3042	3.1495	2.9949
0.15	2.0852	2.0862	2.0891	2.0939	2.1003	2.1083	2.1175	2.1277	2.1386
	0.5364	0.5367	0.5377	0.5393	0.5414	0.5440	0.5470	0.5502	0.5537
	0.0000	0.0287	0.0566	0.0827	0.1063	0.1265	0.1427	0.1543	0.1606
	0.7490	0.7428	0.7247	0.6959	0.6583	0.6144	0.5668	0.5181	0.4707
	3.8437	3.8267	3.7766	3.6960	3.5887	3.4602	3.3166	3.1650	3.0125
0.20	2.0871	2.0881	2.0910	2.0958	2.1023	2.1104	2.1197	2.1299	2.1408
	0.5296	0.5300	0.5310	0.5327	0.5350	0.5378	0.5410	0.5445	0.5482
	0.0000	0.0295	0.0582	0.0850	0.1092	0.1299	0.1464	0.1581	0.1645
	0.7478	0.7416	0.7236	0.6950	0.6576	0.6139	0.5665	0.5180	0.4708
	3.8391	3.8227	3.7741	3.6958	3.5913	3.4658	3.3252	3.1760	3.0250
0.25	2.0890	2.0900	2.0929	2.0978	2.1043	2.1124	2.1217	2.1319	2.1428
	0.5229	0.5233	0.5244	0.5263	0.5287	0.5317	0.5352	0.5389	0.5427
	0.0000	0.0303	0.0596	0.0870	0.1117	0.1328	0.1496	0.1614	0.1677
	0.7462	0.7401	0.7222	0.6938	0.6566	0.6132	0.5661	0.5178	0.4706
	3.8333	3.8174	3.7701	3.6939	3.5920	3.4692	3.3311	3.1840	3.0344
0.30	2.0909	2.0919	2.0948	2.0997	2.1062	2.1143	2.1236	2.1338	2.1447
	0.5163	0.5167	0.5179	0.5199	0.5225	0.5257	0.5294	0.5333	0.5374
	0.0000	0.0309	0.0609	0.0889	0.1140	0.1354	0.1524	0.1642	0.1705
	0.7443	0.7383	0.7205	0.6923	0.6554	0.6123	0.5654	0.5173	0.4703
	3.8264	3.8109	3.7649	3.6905	3.5910	3.4707	3.3349	3.1897	3.0413
0.35	2.0928	2.0938	2.0967	2.1016	2.1081	2.1162	2.1254	2.1356	2.1464
	0.5097	0.5102	0.5115	0.5136	0.5164	0.5198	0.5237	0.5279	0.5322
	0.0000	0.0315	0.0620	0.0905	0.1161	0.1378	0.1549	0.1668	0.1729
	0.7421	0.7361	0.7185	0.6905	0.6539	0.6111	0.5645	0.5166	0.4698
	3.8183	3.8032	3.7584	3.6858	3.5885	3.4706	3.3370	3.1935	3.0462
0.40	2.0947	2.0957	2.0986	2.1034	2.1100	2.1180	2.1272	2.1374	2.1482
	0.5032	0.5037	0.5051	0.5073	0.5103	0.5140	0.5181	0.5225	0.5271
	0.0000	0.0321	0.0631	0.0921	0.1180	0.1399	0.1572	0.1691	0.1751
	0.7396	0.7336	0.7162	0.6884	0.6522	0.6096	0.5633	0.5157	0.4691
	3.8091	3.7943	3.7507	3.6798	3.5846	3.4690	3.3376	3.1958	3.0495
0.45	2.0966	2.0976	2.1005	2.1053	2.1118	2.1198	2.1290	2.1391	2.1498
	0.4967	0.4972	0.4987	0.5011	0.5043	0.5082	0.5126	0.5173	0.5220
	0.0000	0.0326	0.0642	0.0935	0.1198	0.1420	0.1593	0.1712	0.1771
	0.7368	0.7309	0.7136	0.6861	0.6502	0.6080	0.5620	0.5147	0.4683
	3.7987	3.7844	3.7418	3.6726	3.5795	3.4660	3.3367	3.1965	3.0512
0.50	2.0985	2.0995	2.1024	2.1072	2.1136	2.1216	2.1307	2.1408	2.1514
	0.4903	0.4908	0.4924	0.4950	0.4984	0.5025	0.5071	0.5121	0.5170
	0.0000	0.0331	0.0651	0.0949	0.1214	0.1438	0.1613	0.1731	0.1789
	0.7337	0.7278	0.7107	0.6835	0.6479	0.6061	0.5605	0.5135	0.4673
	3.7873	3.7733	3.7318	3.6642	3.5732	3.4619	3.3345	3.1960	3.0517

$$M_{\infty} = 7, \beta_{\kappa} = 15^{\circ}, \alpha = 5^{\circ}$$

ξ	θ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.55	2.1004 0.4839 0.0000 0.7303 3.7747	2.1014 0.4845 0.0336 0.7245 3.7611	2.1043 0.4861 0.0660 0.7076 3.7206	2.1090 0.4889 0.0962 0.6807 3.6547	2.1155 0.4925 0.1230 0.6454 3.5656	2.1234 0.4969 0.1456 0.6040 3.4565	2.1325 0.5017 0.1631 0.5587 3.3311	2.1425 0.5069 0.1749 0.5120 3.1942	2.1530 0.5121 0.1805 0.4661 3.0509
0.60	2.1023 0.4775 0.0000 0.7266 3.7610	2.1033 0.4781 0.0340 0.7209 3.7478	2.1062 0.4799 0.0669 0.7042 3.7084	2.1109 0.4828 0.0974 0.6775 3.6441	2.1173 0.4866 0.1245 0.6427 3.5570	2.1251 0.4912 0.1472 0.6016 3.4499	2.1342 0.4964 0.1648 0.5568 3.3265	2.1441 0.5018 0.1765 0.5104 3.1912	2.1546 0.5073 0.1820 0.4648 3.0489
0.65	2.1042 0.4712 0.0000 0.7226 3.7463	2.1052 0.4718 0.0345 0.7170 3.7334	2.1081 0.4737 0.0677 0.7005 3.6950	2.1128 0.4767 0.0985 0.6741 3.6323	2.1191 0.4808 0.1259 0.6397 3.5472	2.1269 0.4857 0.1488 0.5991 3.4422	2.1359 0.4911 0.1664 0.5546 3.3208	2.1457 0.4968 0.1781 0.5087 3.1871	2.1562 0.5025 0.1833 0.4633 3.0458
0.70	2.1062 0.4648 0.0000 0.7183 3.7304	2.1072 0.4655 0.0349 0.7128 3.7178	2.1100 0.4675 0.0685 0.6965 3.6805	2.1147 0.4707 0.0996 0.6705 3.6194	2.1209 0.4750 0.1272 0.6364 3.5362	2.1287 0.4801 0.1503 0.5963 3.4334	2.1376 0.4858 0.1679 0.5523 3.3140	2.1473 0.4918 0.1795 0.5067 3.1819	2.1577 0.4978 0.1846 0.4616 3.0417
0.75	2.1082 0.4584 0.0000 0.7137 3.7134	2.1091 0.4591 0.0353 0.7082 3.7012	2.1120 0.4613 0.0692 0.6922 3.6649	2.1165 0.4646 0.1007 0.6666 3.6054	2.1228 0.4692 0.1285 0.6329 3.5242	2.1304 0.4746 0.1516 0.5933 3.4234	2.1392 0.4806 0.1693 0.5497 3.3060	2.1490 0.4868 0.1808 0.5046 3.1756	2.1592 0.4931 0.1858 0.4598 3.0364
0.80	2.1102 0.4520 0.0000 0.7088 3.6952	2.1111 0.4528 0.0356 0.7034 3.6834	2.1139 0.4550 0.0699 0.6876 3.6481	2.1185 0.4586 0.1017 0.6624 3.5902	2.1246 0.4631 0.1297 0.6292 3.5110	2.1322 0.4690 0.1530 0.5900 3.4124	2.1409 0.4753 0.1707 0.5470 3.2970	2.1506 0.4819 0.1821 0.5022 3.1682	2.1608 0.4884 0.1868 0.4578 3.0302
0.85	2.1122 0.4456 0.0000 0.7036 3.6758	2.1131 0.4464 0.0360 0.6983 3.6643	2.1159 0.4488 0.0706 0.6828 3.6301	2.1204 0.4525 0.1027 0.6579 3.5739	2.1265 0.4575 0.1309 0.6252 3.4966	2.1340 0.4635 0.1543 0.5865 3.4002	2.1426 0.4701 0.1719 0.5440 3.2868	2.1522 0.4770 0.1833 0.4997 3.1598	2.1623 0.4837 0.1879 0.4557 3.0229
0.90	2.1143 0.4392 0.0000 0.6981 3.6552	2.1152 0.4400 0.0363 0.6929 3.6441	2.1179 0.4425 0.0713 0.6776 3.6109	2.1224 0.4464 0.1036 0.6531 3.5563	2.1284 0.4517 0.1320 0.6209 3.4811	2.1358 0.4579 0.1555 0.5828 3.3868	2.1443 0.4648 0.1732 0.5408 3.2755	2.1538 0.4720 0.1844 0.4970 3.1502	2.1638 0.4790 0.1888 0.4533 3.0146
0.95	2.1164 0.4327 0.0000 0.6923 3.6333	2.1173 0.4335 0.0367 0.6871 3.6225	2.1200 0.4361 0.0720 0.6721 3.5904	2.1243 0.4403 0.1045 0.6480 3.5374	2.1303 0.4458 0.1331 0.6163 3.4643	2.1376 0.4523 0.1567 0.5788 3.3722	2.1461 0.4596 0.1743 0.5374 3.2631	2.1554 0.4671 0.1855 0.4941 3.1396	2.1654 0.4744 0.1897 0.4508 3.0052
1.00	2.1185 0.4261 0.0000 0.6860 3.6100	2.1194 0.4270 0.0370 0.6810 3.5996	2.1221 0.4297 0.0726 0.6664 3.5686	2.1264 0.4341 0.1054 0.6426 3.5172	2.1322 0.4399 0.1341 0.6115 3.4461	2.1395 0.4467 0.1578 0.5745 3.3563	2.1478 0.4543 0.1754 0.5337 3.2494	2.1571 0.4621 0.1865 0.4909 3.1277	2.1670 0.4697 0.1905 0.4481 2.9946
F_x	0.3272	0.3273	0.3277	0.3284	0.3293	0.3305	0.3320	0.3336	0.3353

$$M_{\infty} = 7, \beta_k = 15^\circ, \alpha = 5^\circ$$

ξ	θ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.00	2.1204 0.5681 0.1442 0.4254 2.5660	2.1276 0.5701 0.1396 0.3863 2.3953	2.1344 0.5719 0.1288 0.3533 2.2471	2.1406 0.5736 0.1118 0.3267 2.1252	2.1458 0.5750 0.0892 0.3067 2.0314	2.1497 0.5760 0.0620 0.2930 1.9658	2.1521 0.5767 0.0318 0.2850 1.9273	2.1953 0.5882 0.0000 0.2823 2.3685	2.1529 0.5769 0.0000 0.2823 1.9147
0.05	2.1440 0.5680 0.1506 0.4260 2.8190	2.1552 0.5711 0.1454 0.3869 2.6862	2.1660 0.5741 0.1341 0.3537 2.5753	2.1759 0.5769 0.1168 0.3270 2.4897	2.1845 0.5793 0.0937 0.3069 2.4298	2.1912 0.5811 0.0657 0.2930 2.3929	2.1954 0.5823 0.0339 0.2849 2.3738	2.1968 0.5827 0.0000 0.2822 2.3680	
0.10	2.1473 0.5626 0.1567 0.4264 2.8478	2.1584 0.5658 0.1514 0.3872 2.7148	2.1690 0.5689 0.1398 0.3540 2.6013	2.1787 0.5717 0.1220 0.3272 2.5107	2.1868 0.5741 0.0981 0.3069 2.4439	2.1931 0.5759 0.0689 0.2929 2.3995	2.1970 0.5770 0.0356 0.2847 2.3744	2.1983 0.5774 0.0000 0.2820 2.3663	
0.15	2.1498 0.5572 0.1613 0.4267 2.8662	2.1608 0.5605 0.1557 0.3875 2.7325	2.1713 0.5637 0.1438 0.3541 2.6167	2.1808 0.5666 0.1255 0.3272 2.5223	2.1887 0.5689 0.1009 0.3067 2.4509	2.1947 0.5708 0.0708 0.2926 2.4017	2.1984 0.5719 0.0366 0.2843 2.3731	2.1997 0.5723 0.0000 0.2815 2.3638	
0.20	2.1519 0.5518 0.1649 0.4268 2.8792	2.1629 0.5553 0.1592 0.3875 2.7448	2.1733 0.5586 0.1469 0.3541 2.6270	2.1826 0.5615 0.1280 0.3270 2.5295	2.1904 0.5639 0.1029 0.3064 2.4544	2.1962 0.5658 0.0722 0.2921 2.4017	2.1999 0.5670 0.0372 0.2837 2.3706	2.2011 0.5674 0.0000 0.2810 2.3603	
0.25	2.1539 0.5466 0.1680 0.4267 2.8889	2.1648 0.5502 0.1619 0.3874 2.7537	2.1751 0.5536 0.1493 0.3539 2.6340	2.1843 0.5566 0.1300 0.3267 2.5339	2.1919 0.5591 0.1044 0.3060 2.4557	2.1977 0.5610 0.0731 0.2915 2.4001	2.2012 0.5622 0.0377 0.2831 2.3671	2.2024 0.5626 0.0000 0.2803 2.3561	
0.30	2.1557 0.5414 0.1706 0.4264 2.8961	2.1665 0.5452 0.1642 0.3872 2.7601	2.1767 0.5487 0.1512 0.3536 2.6388	2.1858 0.5518 0.1315 0.3263 2.5363	2.1934 0.5543 0.1055 0.3054 2.4554	2.1991 0.5563 0.0738 0.2908 2.3974	2.2026 0.5575 0.0380 0.2823 2.3626	2.2038 0.5579 0.0000 0.2794 2.3510	
0.35	2.1574 0.5364 0.1728 0.4260 2.9012	2.1682 0.5404 0.1662 0.3868 2.7646	2.1783 0.5440 0.1528 0.3532 2.6417	2.1874 0.5471 0.1328 0.3257 2.5370	2.1949 0.5497 0.1063 0.3047 2.4537	2.2005 0.5517 0.0744 0.2900 2.3936	2.2040 0.5529 0.0383 0.2813 2.3573	2.2051 0.5533 0.0000 0.2784 2.3452	
0.40	2.1591 0.5315 0.1748 0.4255 2.9047	2.1698 0.5356 0.1679 0.3863 2.7674	2.1799 0.5393 0.1542 0.3526 2.6431	2.1888 0.5425 0.1338 0.3250 2.5364	2.1963 0.5451 0.1070 0.3039 2.4509	2.2019 0.5471 0.0748 0.2890 2.3888	2.2053 0.5484 0.0385 0.2803 2.3512	2.2065 0.5488 0.0000 0.2774 2.3386	
0.45	2.1607 0.5266 0.1765 0.4248 2.9067	2.1714 0.5309 0.1693 0.3856 2.7688	2.1814 0.5347 0.1553 0.3518 2.6431	2.1903 0.5380 0.1346 0.3242 2.5346	2.1977 0.5406 0.1075 0.3029 2.4470	2.2032 0.5427 0.0750 0.2879 2.3831	2.2067 0.5439 0.0386 0.2791 2.3443	2.2078 0.5444 0.0000 0.2761 2.3312	
0.50	2.1623 0.5218 0.1781 0.4239 2.9074	2.1729 0.5263 0.1706 0.3848 2.7689	2.1828 0.5302 0.1562 0.3510 2.6419	2.1917 0.5335 0.1352 0.3232 2.5316	2.1991 0.5362 0.1079 0.3018 2.4422	2.2046 0.5382 0.0752 0.2867 2.3766	2.2080 0.5395 0.0387 0.2778 2.3366	2.2092 0.5400 0.0000 0.2748 2.3231	

$$M_{\infty} = 7, \beta_{\kappa} = 15^{\circ}, \alpha = 5^{\circ}$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.55	2.1638 0.5171 0.1795 0.4229 2.9068	2.1743 0.5217 0.1717 0.3838 2.7678	2.1843 0.5257 0.1570 0.3500 2.6397	2.1931 0.5291 0.1357 0.3221 2.5277	2.2004 0.5318 0.1082 0.3006 2.4364	2.2060 0.5339 0.0754 0.2853 2.3692	2.2094 0.5351 0.0387 0.2763 2.3281	2.2105 0.5356 0.0000 0.2733 2.3143	
0.60	2.1653 0.5125 0.1807 0.4217 2.9051	2.1758 0.5172 0.1726 0.3827 2.7656	2.1857 0.5214 0.1577 0.3489 2.6364	2.1945 0.5248 0.1361 0.3209 2.5228	2.2018 0.5275 0.1084 0.2992 2.4298	2.2073 0.5295 0.0754 0.2839 2.3610	2.2107 0.5308 0.0387 0.2748 2.3189	2.2119 0.5312 0.0000 0.2717 2.3047	
0.65	2.1668 0.5079 0.1819 0.4204 2.9023	2.1772 0.5128 0.1735 0.3815 2.7624	2.1871 0.5170 0.1583 0.3476 2.6321	2.1959 0.5205 0.1364 0.3196 2.5170	2.2032 0.5232 0.1085 0.2978 2.4222	2.2087 0.5252 0.0754 0.2823 2.3520	2.2121 0.5264 0.0387 0.2731 2.3088	2.2133 0.5268 0.0000 0.2700 2.2942	
0.70	2.1683 0.5034 0.1829 0.4189 2.8985	2.1787 0.5084 0.1742 0.3801 2.7582	2.1885 0.5127 0.1587 0.3462 2.6268	2.1972 0.5162 0.1366 0.3181 2.5102	2.2046 0.5189 0.1085 0.2962 2.4139	2.2101 0.5208 0.0754 0.2806 2.3421	2.2135 0.5220 0.0387 0.2713 2.2979	2.2147 0.5224 0.0000 0.2682 2.2830	
0.75	2.1697 0.4989 0.1838 0.4173 2.8937	2.1801 0.5041 0.1749 0.3786 2.7531	2.1899 0.5085 0.1591 0.3447 2.6206	2.1986 0.5120 0.1368 0.3165 2.5026	2.2060 0.5146 0.1085 0.2944 2.4046	2.2115 0.5165 0.0753 0.2787 2.3313	2.2150 0.5176 0.0386 0.2693 2.2862	2.2161 0.5180 0.0000 0.2662 2.2709	
0.80	2.1712 0.4944 0.1846 0.4156 2.8879	2.1815 0.4998 0.1755 0.3769 2.7469	2.1913 0.5042 0.1594 0.3430 2.6135	2.2000 0.5077 0.1369 0.3147 2.4940	2.2074 0.5103 0.1085 0.2925 2.3944	2.2130 0.5121 0.0753 0.2767 2.3197	2.2164 0.5131 0.0385 0.2672 2.2735	2.2176 0.5135 0.0000 0.2640 2.2578	
0.85	2.1727 0.4900 0.1854 0.4136 2.8811	2.1829 0.4955 0.1760 0.3751 2.7398	2.1927 0.5000 0.1597 0.3412 2.6055	2.2014 0.5034 0.1369 0.3129 2.4845	2.2088 0.5060 0.1084 0.2905 2.3832	2.2144 0.5076 0.0751 0.2745 2.3070	2.2179 0.5086 0.0385 0.2649 2.2597	2.2191 0.5089 0.0000 0.2617 2.2437	
0.90	2.1741 0.4855 0.1861 0.4116 2.8732	2.1844 0.4911 0.1764 0.3732 2.7317	2.1941 0.4957 0.1599 0.3393 2.5964	2.2029 0.4991 0.1369 0.3108 2.4740	2.2103 0.5016 0.1083 0.2883 2.3711	2.2159 0.5031 0.0750 0.2722 2.2933	2.2195 0.5040 0.0384 0.2625 2.2419	2.2207 0.5042 0.0000 0.2592 2.2285	
0.95	2.1756 0.4811 0.1868 0.4093 2.8644	2.1858 0.4868 0.1768 0.3710 2.7227	2.1955 0.4914 0.1600 0.3372 2.5864	2.2043 0.4948 0.1369 0.3086 2.4625	2.2118 0.4971 0.1081 0.2860 2.3578	2.2175 0.4985 0.0748 0.2697 2.2783	2.2211 0.4992 0.0383 0.2598 2.2288	2.2223 0.4994 0.0000 0.2566 2.2119	
1.00	2.1771 0.4766 0.1874 0.4069 2.8544	2.1873 0.4825 0.1771 0.3688 2.7125	2.1970 0.4871 0.1601 0.3349 2.5753	2.2058 0.4904 0.1368 0.3063 2.4499	2.2134 0.4925 0.1079 0.2835 2.3433	2.2191 0.4937 0.0746 0.2669 2.2621	2.2228 0.4943 0.0381 0.2570 2.2113	2.2240 0.4945 0.0000 0.2536 2.1939	
F_x	0.3372	0.3390	0.3407	0.3422	0.3435	0.3443	0.3449	0.3450	

$$M_{\infty} = 7, \beta_{\kappa} = 15^{\circ}, \alpha = 10^{\circ}$$

ξ	θ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.00	1.9958	1.9969	2.0004	2.0062	2.0142	2.0242	2.0361	2.0496	2.0644
	0.5348	0.5351	0.5360	0.5376	0.5397	0.5424	0.5456	0.5492	0.5532
	0.0000	0.0476	0.0943	0.1391	0.1810	0.2192	0.2526	0.2803	0.3008
	1.0798	1.0639	1.0179	0.9459	0.8544	0.7508	0.6433	0.5386	0.4426
	4.3666	4.3208	4.1864	3.9727	3.6941	3.3685	3.0162	2.6568	2.3094
0.05	1.9979	1.9995	2.0044	2.0123	2.0231	2.0366	2.0525	2.0702	2.0896
	0.5269	0.5274	0.5288	0.5312	0.5344	0.5384	0.5431	0.5484	0.5541
	0.0000	0.0501	0.0990	0.1455	0.1884	0.2266	0.2589	0.2845	0.3021
	1.0795	1.0638	1.0181	0.9465	0.8555	0.7526	0.6455	0.5412	0.4454
	4.3659	4.3265	4.2105	4.0248	3.7808	3.4920	3.1760	2.8483	2.5281
0.10	2.0000	2.0017	2.0068	2.0152	2.0267	2.0408	2.0574	2.0759	2.0959
	0.5191	0.5197	0.5213	0.5241	0.5278	0.5324	0.5379	0.5439	0.5504
	0.0000	0.0520	0.1027	0.1507	0.1947	0.2335	0.2660	0.2913	0.3081
	1.0788	1.0632	1.0178	0.9468	0.8564	0.7541	0.6476	0.5437	0.4482
	4.3638	4.3265	4.2164	4.0400	3.8072	3.5307	3.2266	2.9095	2.5978
0.15	2.0021	2.0039	2.0092	2.0178	2.0296	2.0441	2.0611	2.0800	2.1003
	0.5114	0.5120	0.5139	0.5170	0.5212	0.5264	0.5326	0.5393	0.5466
	0.0000	0.0537	0.1059	0.1552	0.2002	0.2397	0.2724	0.2974	0.3137
	1.0776	1.0621	1.0171	0.9467	0.8570	0.7554	0.6495	0.5461	0.4510
	4.3604	4.3247	4.2195	4.0504	3.8268	3.5602	3.2656	2.9571	2.6519
0.20	2.0043	2.0061	2.0115	2.0203	2.0322	2.0470	2.0642	2.0833	2.1038
	0.5037	0.5044	0.5065	0.5100	0.5147	0.5205	0.5273	0.5348	0.5427
	0.0000	0.0552	0.1088	0.1593	0.2052	0.2453	0.2781	0.3031	0.3189
	1.0760	1.0606	1.0160	0.9462	0.8573	0.7565	0.6513	0.5485	0.4536
	4.3556	4.3214	4.2205	4.0580	3.8424	3.5846	3.2986	2.9974	2.6978
0.25	2.0064	2.0082	2.0137	2.0226	2.0347	2.0496	2.0669	2.0861	2.1067
	0.4961	0.4969	0.4992	0.5030	0.5082	0.5146	0.5221	0.5303	0.5389
	0.0000	0.0566	0.1115	0.1631	0.2099	0.2504	0.2835	0.3083	0.3236
	1.0739	1.0587	1.0145	0.9454	0.8573	0.7573	0.6529	0.5507	0.4562
	4.3495	4.3166	4.2197	4.0633	3.8553	3.6056	3.3274	3.0331	2.7385
0.30	2.0085	2.0104	2.0159	2.0249	2.0370	2.0520	2.0693	2.0885	2.1091
	0.4887	0.4894	0.4920	0.4962	0.5019	0.5089	0.5170	0.5259	0.5353
	0.0000	0.0579	0.1141	0.1668	0.2143	0.2553	0.2885	0.3131	0.3280
	1.0713	1.0563	1.0126	0.9443	0.8570	0.7579	0.6544	0.5528	0.4588
	4.3421	4.3106	4.2174	4.0668	3.8659	3.6240	3.3533	3.0654	2.7755
0.35	2.0107	2.0126	2.0181	2.0271	2.0393	2.0542	2.0716	2.0907	2.1112
	0.4811	0.4820	0.4848	0.4894	0.4956	0.5032	0.5121	0.5217	0.5318
	0.0000	0.0592	0.1165	0.1702	0.2184	0.2600	0.2933	0.3177	0.3321
	1.0683	1.0535	1.0104	0.9427	0.8564	0.7583	0.6557	0.5548	0.4613
	4.3335	4.3032	4.2136	4.0686	3.8747	3.6403	3.3767	3.0951	2.8095
0.40	2.0129	2.0147	2.0202	2.0292	2.0414	2.0564	2.0737	2.0928	2.1131
	0.4736	0.4746	0.4776	0.4826	0.4893	0.4976	0.5072	0.5176	0.5284
	0.0000	0.0604	0.1188	0.1735	0.2224	0.2644	0.2978	0.3220	0.3358
	1.0649	1.0503	1.0077	0.9409	0.8556	0.7585	0.6568	0.5567	0.4637
	4.3236	4.2945	4.2085	4.0690	3.8818	3.6547	3.3981	3.1225	2.8413
0.45	2.0150	2.0169	2.0224	2.0314	2.0435	2.0584	2.0756	2.0946	2.1148
	0.4662	0.4673	0.4706	0.4759	0.4832	0.4921	0.5024	0.5136	0.5251
	0.0000	0.0616	0.1211	0.1766	0.2263	0.2686	0.3021	0.3261	0.3394
	1.0611	1.0466	1.0046	0.9387	0.8545	0.7585	0.6578	0.5585	0.4660
	4.3125	4.2846	4.2020	4.0679	3.8873	3.6674	3.4178	3.1482	2.8711
0.50	2.0172	2.0191	2.0246	2.0335	2.0456	2.0604	2.0775	2.0963	2.1164
	0.4588	0.4600	0.4635	0.4693	0.4771	0.4867	0.4978	0.5097	0.5220
	0.0000	0.0627	0.1233	0.1797	0.2300	0.2727	0.3062	0.3299	0.3427
	1.0568	1.0426	1.0012	0.9362	0.8530	0.7582	0.6586	0.5602	0.4683
	4.3001	4.2734	4.1943	4.0654	3.8914	3.6787	3.4360	3.1722	2.8992

$$M_{\infty} = 7, \beta_{\kappa} = 15^{\circ}, \alpha = 10^{\circ}$$

ξ	θ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.55	2.0194 0.4514 0.0000 1.0522 4.2865	2.0213 0.4527 0.0638 1.0382 4.2610	2.0267 0.4565 0.1254 0.9974 4.1853	2.0356 0.4627 0.1826 0.9334 4.0616	2.0476 0.4711 0.2335 0.8514 3.8942	2.0623 0.4814 0.2766 0.7578 3.6886	2.0793 0.4932 0.3102 0.6593 3.4527	2.0979 0.5060 0.3336 0.5618 3.1948	2.1178 0.5190 0.3459 0.4706 2.9259
0.60	2.0216 0.4440 0.0000 1.0471 4.2717	2.0235 0.4454 0.0649 1.0333 4.2474	2.0289 0.4495 0.1274 0.9932 4.1750	2.0377 0.4561 0.1855 0.9302 4.0566	2.0496 0.4651 0.2370 0.8494 3.8957	2.0641 0.4762 0.2804 0.7571 3.6972	2.0809 0.4888 0.3140 0.6598 3.4682	2.0994 0.5023 0.3372 0.5633 3.2162	2.1191 0.5162 0.3489 0.4728 2.9513
0.65	2.0239 0.4366 0.0000 1.0416 4.2557	2.0257 0.4381 0.0659 1.0280 4.2325	2.0311 0.4425 0.1294 0.9886 4.1635	2.0398 0.4496 0.1883 0.9267 4.0503	2.0515 0.4592 0.2404 0.8472 3.8959	2.0659 0.4710 0.2841 0.7562 3.7045	2.0826 0.4844 0.3177 0.6601 3.4824	2.1008 0.4988 0.3406 0.5647 3.2363	2.1202 0.5134 0.3517 0.4749 2.9756
0.70	2.0262 0.4293 0.0000 1.0356 4.2384	2.0279 0.4308 0.0669 1.0224 4.2163	2.0332 0.4355 0.1313 0.9837 4.1507	2.0418 0.4431 0.1910 0.9228 4.0427	2.0535 0.4533 0.2437 0.8447 3.8949	2.0677 0.4658 0.2876 0.7551 3.7107	2.0841 0.4801 0.3213 0.6603 3.4955	2.1021 0.4953 0.3439 0.5660 3.2553	2.1213 0.5108 0.3544 0.4770 2.9988
0.75	2.0284 0.4219 0.0000 1.0293 4.2198	2.0302 0.4236 0.0679 1.0163 4.1989	2.0354 0.4285 0.1332 0.9784 4.1366	2.0439 0.4366 0.1937 0.9186 4.0339	2.0554 0.4475 0.2469 0.8419 3.8926	2.0694 0.4607 0.2911 0.7538 3.7156	2.0856 0.4758 0.3248 0.6604 3.5074	2.1034 0.4920 0.3471 0.5672 3.2733	2.1223 0.5083 0.3569 0.4790 3.0211
0.80	2.0308 0.4145 0.0000 1.0225 4.1999	2.0325 0.4162 0.0689 1.0098 4.1802	2.0377 0.4215 0.1351 0.9726 4.1213	2.0460 0.4301 0.1963 0.9141 4.0238	2.0573 0.4416 0.2500 0.8388 3.8892	2.0711 0.4557 0.2946 0.7522 3.7194	2.0871 0.4716 0.3282 0.6603 3.5183	2.1046 0.4887 0.3501 0.5683 3.2904	2.1233 0.5059 0.3594 0.4810 3.0424
0.85	2.0331 0.4070 0.0000 1.0153 4.1787	2.0348 0.4089 0.0698 1.0028 4.1602	2.0399 0.4145 0.1369 0.9665 4.1046	2.0481 0.4235 0.1988 0.9092 4.0125	2.0592 0.4358 0.2531 0.8354 3.8844	2.0728 0.4506 0.2979 0.7505 3.7221	2.0885 0.4675 0.3315 0.6600 3.5281	2.1057 0.4855 0.3531 0.5694 3.3064	2.1241 0.5035 0.3617 0.4829 3.0630
0.90	2.0355 0.3995 0.0000 1.0076 4.1561	2.0372 0.4015 0.0708 0.9954 4.1387	2.0422 0.4074 0.1387 0.9600 4.0866	2.0502 0.4170 0.2013 0.9040 3.9998	2.0612 0.4299 0.2561 0.8317 3.8785	2.0745 0.4456 0.3011 0.7484 3.7235	2.0899 0.4634 0.3347 0.6596 3.5369	2.1068 0.4823 0.3560 0.5703 3.3216	2.1250 0.5013 0.3640 0.4847 3.0827
0.95	2.0380 0.3919 0.0000 0.9995 4.1320	2.0396 0.3940 0.0717 0.9876 4.1159	2.0445 0.4003 0.1405 0.9530 4.0672	2.0524 0.4104 0.2038 0.8983 3.9857	2.0631 0.4241 0.2590 0.8277 3.8712	2.0762 0.4406 0.3043 0.7462 3.7238	2.0913 0.4594 0.3378 0.6590 3.5446	2.1079 0.4793 0.3588 0.5710 3.3359	2.1257 0.4992 0.3661 0.4866 3.1017
1.00	2.0404 0.3843 0.0000 0.9908 4.1065	2.0420 0.3865 0.0726 0.9793 4.0915	2.0468 0.3931 0.1422 0.9456 4.0462	2.0546 0.4038 0.2062 0.8923 3.9702	2.0650 0.4182 0.2620 0.8234 3.8626	2.0778 0.4356 0.3075 0.7437 3.7229	2.0926 0.4553 0.3409 0.6582 3.5513	2.1089 0.4762 0.3615 0.5717 3.3492	2.1264 0.4971 0.3682 0.4883 3.1200
F_x	0.3261	0.3264	0.3272	0.3285	0.3305	0.3330	0.3363	0.3403	0.3449

$$M_{\infty} = 7, \beta_{\kappa} = 15^{\circ}, \alpha = 10^{\circ}$$

ξ	θ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.00	2.0802	2.0966	2.1129	2.1285	2.1422	2.1532	2.1591	2.2283	2.1608
	0.5574	0.5618	0.5661	0.5703	0.5740	0.5769	0.5785	0.5971	0.5790
	0.3135	0.3160	0.3070	0.2808	0.2344	0.1584	0.0734	0.0000	0.0000
	0.3589	0.2899	0.2360	0.1974	0.1733	0.1615	0.1572	0.1560	0.1560
	1.9884	1.7071	1.4736	1.2971	1.1821	1.1239	1.1022	1.6110	1.0964
0.05	2.1100	2.1312	2.1524	2.1733	2.1927	2.2106	2.2242	2.2294	
	0.5601	0.5662	0.5723	0.5781	0.5838	0.5889	0.5923	0.5933	
	0.3110	0.3095	0.2966	0.2683	0.2216	0.1564	0.0821	0.0000	
	0.3618	0.2926	0.2383	0.1992	0.1745	0.1621	0.1573	0.1559	
	2.2278	1.9642	1.7463	1.5910	1.5076	1.5115	1.5749	1.6110	
0.10	2.1170	2.1386	2.1602	2.1809	2.1999	2.2159	2.2266	2.2302	
	0.5572	0.5639	0.5703	0.5763	0.5818	0.5866	0.5894	0.5903	
	0.3160	0.3134	0.2995	0.2709	0.2256	0.1626	0.0864	0.0000	
	0.3646	0.2953	0.2406	0.2010	0.1758	0.1626	0.1574	0.1558	
	2.3037	2.0435	1.8267	1.6692	1.5820	1.5695	1.5963	1.6102	
0.15	2.1217	2.1434	2.1649	2.1855	2.2038	2.2186	2.2279	2.2310	
	0.5539	0.5611	0.5678	0.5738	0.5792	0.5838	0.5867	0.5877	
	0.3208	0.3173	0.3027	0.2738	0.2289	0.1659	0.0880	0.0000	
	0.3674	0.2980	0.2430	0.2029	0.1770	0.1632	0.1574	0.1557	
	2.3620	2.1035	1.8855	1.7235	1.6278	1.5990	1.6050	1.6090	
0.20	2.1252	2.1470	2.1683	2.1886	2.2064	2.2204	2.2289	2.2317	
	0.5507	0.5583	0.5652	0.5712	0.5764	0.5809	0.5840	0.5852	
	0.3252	0.3209	0.3054	0.2760	0.2311	0.1676	0.0886	0.0000	
	0.3702	0.3006	0.2453	0.2047	0.1781	0.1637	0.1574	0.1554	
	2.4113	2.1535	1.9333	1.7656	1.6605	1.6175	1.6094	1.6074	
0.25	2.1280	2.1497	2.1709	2.1909	2.2083	2.2217	2.2297	2.2324	
	0.5475	0.5556	0.5628	0.5687	0.5737	0.5782	0.5815	0.5829	
	0.3293	0.3241	0.3078	0.2777	0.2323	0.1683	0.0887	0.0000	
	0.3730	0.3033	0.2477	0.2065	0.1792	0.1641	0.1573	0.1552	
	2.4549	2.1971	1.9742	1.8002	1.6857	1.6304	1.6116	1.6054	
0.30	2.1304	2.1519	2.1729	2.1927	2.2098	2.2228	2.2305	2.2331	
	0.5445	0.5530	0.5604	0.5663	0.5712	0.5757	0.5791	0.5805	
	0.3329	0.3269	0.3096	0.2788	0.2329	0.1683	0.0884	0.0000	
	0.3757	0.3059	0.2500	0.2082	0.1803	0.1645	0.1572	0.1549	
	2.4943	2.2363	2.0103	1.8300	1.7061	1.6400	1.6124	1.6031	
0.35	2.1324	2.1538	2.1746	2.1942	2.2110	2.2238	2.2313	2.2338	
	0.5416	0.5506	0.5583	0.5641	0.5688	0.5732	0.5767	0.5782	
	0.3363	0.3293	0.3111	0.2795	0.2329	0.1679	0.0880	0.0000	
	0.3784	0.3085	0.2523	0.2100	0.1814	0.1648	0.1570	0.1545	
	2.5307	2.2721	2.0428	1.8561	1.7234	1.6473	1.6123	1.6004	
0.40	2.1342	2.1554	2.1760	2.1954	2.2121	2.2246	2.2320	2.2345	
	0.5389	0.5484	0.5562	0.5621	0.5666	0.5709	0.5744	0.5759	
	0.3393	0.3314	0.3122	0.2797	0.2325	0.1672	0.0874	0.0000	
	0.3811	0.3111	0.2546	0.2117	0.1823	0.1651	0.1567	0.1541	
	2.5645	2.3053	2.0727	1.8796	1.7382	1.6530	1.6114	1.5973	
0.45	2.1357	2.1567	2.1772	2.1964	2.2130	2.2254	2.2328	2.2352	
	0.5363	0.5463	0.5544	0.5602	0.5645	0.5686	0.5720	0.5736	
	0.3421	0.3333	0.3130	0.2796	0.2318	0.1662	0.0868	0.0000	
	0.3837	0.3137	0.2569	0.2134	0.1833	0.1653	0.1564	0.1536	
	2.5963	2.3364	2.1004	1.9010	1.7513	1.6574	1.6098	1.5938	
0.50	2.1370	2.1579	2.1782	2.1973	2.2138	2.2262	2.2335	2.2360	
	0.5338	0.5443	0.5527	0.5585	0.5626	0.5665	0.5697	0.5712	
	0.3446	0.3348	0.3136	0.2793	0.2308	0.1652	0.0860	0.0000	
	0.3863	0.3163	0.2591	0.2151	0.1842	0.1654	0.1561	0.1531	
	2.6264	2.3658	2.1264	1.9208	1.7631	1.6609	1.6077	1.5898	

$$M_{\infty} = 7, \beta_{\kappa} = 15^{\circ}, \alpha = 10^{\circ}$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.55	2.1382 0.5315 0.3470 0.3889 2.6550	2.1589 0.5425 0.3362 0.3189 2.3936	2.1790 0.5512 0.3139 0.2614 2.1509	2.1980 0.5570 0.2787 0.2168 1.9394	2.2145 0.5608 0.2297 0.1851 1.7737	2.2269 0.5644 0.1639 0.1655 1.6636	2.2343 0.5673 0.0853 0.1556 1.6049	2.2368 0.5688 0.0000 0.1524 1.5852	
0.60	2.1393 0.5294 0.3491 0.3914 2.6824	2.1598 0.5409 0.3374 0.3214 2.4202	2.1797 0.5499 0.3140 0.2637 2.1743	2.1986 0.5556 0.2779 0.2184 1.9568	2.2151 0.5591 0.2284 0.1860 1.7835	2.2276 0.5623 0.1626 0.1656 1.6656	2.2351 0.5649 0.0845 0.1551 1.6015	2.2376 0.5662 0.0000 0.1518 1.5801	
0.65	2.1403 0.5273 0.3511 0.3939 2.7086	2.1605 0.5394 0.3384 0.3240 2.4458	2.1803 0.5487 0.3140 0.2659 2.1967	2.1992 0.5544 0.2770 0.2201 1.9735	2.2157 0.5576 0.2269 0.1868 1.7925	2.2283 0.5603 0.1612 0.1656 1.6670	2.2360 0.5624 0.0836 0.1545 1.5975	2.2385 0.5636 0.0000 0.1510 1.5743	
0.70	2.1411 0.5254 0.3530 0.3964 2.7338	2.1612 0.5381 0.3392 0.3265 2.4704	2.1808 0.5477 0.3138 0.2682 2.2183	2.1996 0.5534 0.2759 0.2217 1.9895	2.2162 0.5562 0.2254 0.1876 1.8011	2.2290 0.5583 0.1597 0.1655 1.6678	2.2368 0.5599 0.0828 0.1538 1.5927	2.2394 0.5609 0.0000 0.1501 1.5678	
0.75	2.1419 0.5237 0.3547 0.3989 2.7581	2.1617 0.5368 0.3400 0.3291 2.4942	2.1812 0.5468 0.3135 0.2705 2.2392	2.2000 0.5525 0.2747 0.2234 2.0049	2.2167 0.5549 0.2237 0.1884 1.8091	2.2297 0.5563 0.1582 0.1654 1.6680	2.2378 0.5572 0.0819 0.1531 1.5873	2.2404 0.5580 0.0000 0.1491 1.5604	
0.80	2.1426 0.5220 0.3563 0.4014 2.7817	2.1622 0.5358 0.3406 0.3316 2.5173	2.1815 0.5460 0.3131 0.2728 2.2595	2.2003 0.5517 0.2734 0.2251 2.0200	2.2171 0.5537 0.2220 0.1892 1.8169	2.2304 0.5543 0.1566 0.1653 1.6678	2.2387 0.5544 0.0810 0.1522 1.5809	2.2415 0.5549 0.0000 0.1480 1.5520	
0.85	2.1432 0.5205 0.3578 0.4038 2.8045	2.1626 0.5348 0.3411 0.3342 2.5399	2.1818 0.5454 0.3126 0.2751 2.2795	2.2006 0.5511 0.2721 0.2268 2.0347	2.2175 0.5526 0.2201 0.1901 1.8244	2.2311 0.5523 0.1549 0.1651 1.6671	2.2398 0.5515 0.0800 0.1512 1.5736	2.2427 0.5516 0.0000 0.1467 1.5423	
0.90	2.1437 0.5190 0.3592 0.4063 2.8267	2.1629 0.5340 0.3415 0.3367 2.5619	2.1820 0.5450 0.3119 0.2774 2.2990	2.2007 0.5506 0.2706 0.2285 2.0493	2.2178 0.5517 0.2183 0.1909 1.8318	2.2318 0.5504 0.1532 0.1649 1.6660	2.2410 0.5483 0.0790 0.1500 1.5650	2.2440 0.5479 0.0000 0.1452 1.5311	
0.95	2.1442 0.5177 0.3605 0.4087 2.8483	2.1632 0.5333 0.3418 0.3393 2.5835	2.1821 0.5446 0.3113 0.2798 2.3183	2.2009 0.5503 0.2691 0.2303 2.0638	2.2181 0.5509 0.2163 0.1917 1.8392	2.2326 0.5484 0.1514 0.1646 1.6644	2.2422 0.5448 0.0780 0.1487 1.5550	2.2455 0.5438 0.0000 0.1435 1.5178	
1.00	2.1446 0.5165 0.3618 0.4111 2.8693	2.1634 0.5327 0.3420 0.3419 2.6047	2.1822 0.5444 0.3105 0.2822 2.3374	2.2009 0.5501 0.2675 0.2321 2.0783	2.2184 0.5502 0.2143 0.1926 1.8467	2.2333 0.5464 0.1495 0.1642 1.6624	2.2437 0.5410 0.0769 0.1470 1.5430	2.2473 0.5391 0.0000 0.1413 1.5016	
F_x	0.3504	0.3561	0.3623	0.3679	0.3727	0.3753	0.3775	0.3776	

$$M_{\infty} = 7, \beta_{\kappa} = 20^{\circ}, \alpha = 5^{\circ}$$

ξ	θ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.00	1.9345	1.9352	1.9372	1.9405	1.9451	1.9507	1.9572	1.9645	1.9722
	0.7041	0.7044	0.7051	0.7063	0.7080	0.7100	0.7124	0.7150	0.7178
	0.0000	0.0223	0.0440	0.0643	0.0826	0.0983	0.1107	0.1193	0.1235
	1.1020	1.0944	1.0722	1.0367	0.9901	0.9353	0.8754	0.8134	0.7524
	4.3785	4.3570	4.2935	4.1914	4.0561	3.8944	3.7145	3.5248	3.3339
0.05	1.9371	1.9383	1.9419	1.9478	1.9560	1.9660	1.9777	1.9907	2.0047
	0.6971	0.6976	0.6989	0.7012	0.7042	0.7080	0.7124	0.7173	0.7226
	0.0000	0.0248	0.0487	0.0711	0.0911	0.1081	0.1213	0.1303	0.1345
	1.1018	1.0942	1.0720	1.0366	0.9902	0.9355	0.8757	0.8138	0.7528
	4.3778	4.3627	4.3180	4.2464	4.1515	4.0386	3.9140	3.7844	3.6568
0.10	1.9397	1.9409	1.9447	1.9508	1.9592	1.9695	1.9814	1.9946	2.0087
	0.6901	0.6906	0.6921	0.6945	0.6978	0.7018	0.7065	0.7116	0.7171
	0.0000	0.0264	0.0519	0.0757	0.0969	0.1150	0.1291	0.1387	0.1434
	1.1011	1.0935	1.0715	1.0362	0.9899	0.9353	0.8756	0.8139	0.7529
	4.3759	4.3616	4.3193	4.2513	4.1612	4.0534	3.9340	3.8090	3.6848
0.15	1.9422	1.9435	1.9473	1.9536	1.9620	1.9725	1.9845	1.9978	2.0119
	0.6832	0.6837	0.6853	0.6879	0.6913	0.6956	0.7005	0.7058	0.7115
	0.0000	0.0276	0.0543	0.0793	0.1016	0.1204	0.1352	0.1453	0.1502
	1.1000	1.0925	1.0705	1.0353	0.9892	0.9348	0.8753	0.8137	0.7528
	4.3727	4.3590	4.3184	4.2531	4.1663	4.0623	3.9465	3.8245	3.7025
0.20	1.9448	1.9461	1.9500	1.9563	1.9648	1.9753	1.9874	2.0007	2.0148
	0.6764	0.6769	0.6786	0.6813	0.6849	0.6893	0.6944	0.7000	0.7059
	0.0000	0.0287	0.0565	0.0824	0.1055	0.1251	0.1404	0.1508	0.1558
	1.0985	1.0910	1.0691	1.0341	0.9882	0.9340	0.8747	0.8132	0.7525
	4.3683	4.3551	4.3160	4.2528	4.1688	4.0678	3.9548	3.8352	3.7148
0.25	1.9474	1.9487	1.9526	1.9589	1.9674	1.9780	1.9901	2.0034	2.0175
	0.6696	0.6702	0.6719	0.6747	0.6785	0.6832	0.6885	0.6943	0.7003
	0.0000	0.0297	0.0583	0.0851	0.1089	0.1291	0.1449	0.1556	0.1607
	1.0965	1.0891	1.0673	1.0325	0.9868	0.9329	0.8738	0.8125	0.7519
	4.3628	4.3499	4.3121	4.2509	4.1692	4.0709	3.9604	3.8429	3.7238
0.30	1.9500	1.9513	1.9552	1.9615	1.9701	1.9806	1.9927	2.0060	2.0201
	0.6629	0.6635	0.6653	0.6682	0.6722	0.6771	0.6826	0.6886	0.6948
	0.0000	0.0305	0.0600	0.0875	0.1120	0.1327	0.1489	0.1598	0.1650
	1.0941	1.0867	1.0651	1.0305	0.9850	0.9314	0.8726	0.8115	0.7510
	4.3560	4.3436	4.3069	4.2475	4.1680	4.0720	3.9638	3.8481	3.7301
0.35	1.9526	1.9539	1.9577	1.9641	1.9726	1.9831	1.9952	2.0085	2.0225
	0.6562	0.6568	0.6587	0.6618	0.6660	0.6710	0.6767	0.6829	0.6894
	0.0000	0.0313	0.0615	0.0898	0.1149	0.1360	0.1525	0.1636	0.1688
	1.0913	1.0840	1.0625	1.0281	0.9830	0.9296	0.8711	0.8102	0.7499
	4.3481	4.3361	4.3004	4.2427	4.1653	4.0715	3.9654	3.8514	3.7345
0.40	1.9551	1.9564	1.9603	1.9666	1.9752	1.9857	1.9977	2.0110	2.0249
	0.6496	0.6503	0.6522	0.6554	0.6598	0.6650	0.6709	0.6774	0.6840
	0.0000	0.0321	0.0630	0.0918	0.1175	0.1391	0.1558	0.1671	0.1723
	1.0882	1.0809	1.0596	1.0254	0.9806	0.9276	0.8693	0.8087	0.7486
	4.3391	4.3274	4.2928	4.2367	4.1612	4.0695	3.9653	3.8529	3.7370
0.45	1.9577	1.9590	1.9629	1.9692	1.9777	1.9881	2.0002	2.0133	2.0272
	0.6430	0.6437	0.6458	0.6491	0.6536	0.6590	0.6652	0.6719	0.6787
	0.0000	0.0327	0.0644	0.0938	0.1199	0.1419	0.1589	0.1703	0.1755
	1.0846	1.0774	1.0562	1.0224	0.9778	0.9252	0.8672	0.8069	0.7471
	4.3290	4.3176	4.2840	4.2294	4.1558	4.0662	3.9639	3.8530	3.7380
0.50	1.9603	1.9616	1.9655	1.9717	1.9802	1.9906	2.0026	2.0157	2.0295
	0.6365	0.6372	0.6393	0.6428	0.6475	0.6531	0.6595	0.6664	0.6735
	0.0000	0.0334	0.0656	0.0956	0.1222	0.1445	0.1617	0.1732	0.1784
	1.0807	1.0735	1.0525	1.0190	0.9748	0.9225	0.8649	0.8049	0.7453
	4.3177	4.3067	4.2741	4.2209	4.1492	4.0614	3.9610	3.8516	3.7376

$$M_{\infty} = 7, \beta_{\kappa} = 20^{\circ}, \alpha = 5^{\circ}$$

ξ	θ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.55	1.9629 0.6300 0.0000 1.0764 4.3054	1.9642 0.6307 0.0340 1.0693 4.2947	1.9681 0.6330 0.0668 1.0485 4.2630	1.9743 0.6366 0.0973 1.0151 4.2113	1.9827 0.6414 0.1243 0.9714 4.1413	1.9931 0.6473 0.1470 0.9195 4.0556	2.0050 0.6539 0.1644 0.8623 3.9569	2.0180 0.6610 0.1759 0.8027 3.8490	2.0317 0.6683 0.1811 0.7433 3.7358
0.60	1.9656 0.6235 0.0000 1.0717 4.2920	1.9668 0.6243 0.0346 1.0647 4.2816	1.9706 0.6266 0.0679 1.0441 4.2509	1.9768 0.6304 0.0989 1.0111 4.2006	1.9852 0.6354 0.1263 0.9677 4.1324	1.9955 0.6415 0.1493 0.9162 4.0485	2.0073 0.6483 0.1669 0.8594 3.9514	2.0203 0.6556 0.1785 0.8002 3.8451	2.0339 0.6631 0.1836 0.7411 3.7328
0.65	1.9682 0.6170 0.0000 1.0666 4.2774	1.9695 0.6178 0.0351 1.0597 4.2674	1.9733 0.6202 0.0690 1.0393 4.2376	1.9794 0.6241 0.1004 1.0066 4.1887	1.9877 0.6294 0.1282 0.9636 4.1222	1.9979 0.6357 0.1515 0.9126 4.0403	2.0097 0.6428 0.1693 0.8563 3.9451	2.0226 0.6503 0.1809 0.7974 3.8401	2.0361 0.6580 0.1859 0.7387 3.7287
0.70	1.9709 0.6105 0.0000 1.0611 4.2618	1.9721 0.6114 0.0356 1.0542 4.2521	1.9759 0.6139 0.0700 1.0341 4.2232	1.9820 0.6180 0.1019 1.0019 4.1757	1.9902 0.6234 0.1301 0.9593 4.1110	2.0004 0.6299 0.1535 0.9087 4.0309	2.0120 0.6372 0.1715 0.8529 3.9375	2.0248 0.6450 0.1832 0.7944 3.8339	2.0383 0.6529 0.1881 0.7360 3.7234
0.75	1.9736 0.6041 0.0000 1.0553 4.2451	1.9748 0.6049 0.0361 1.0485 4.2357	1.9785 0.6076 0.0710 1.0286 4.2076	1.9846 0.6118 0.1033 0.9967 4.1616	1.9928 0.6174 0.1318 0.9546 4.0986	2.0028 0.6241 0.1555 0.9046 4.0203	2.0144 0.6317 0.1736 0.8492 3.9287	2.0271 0.6397 0.1853 0.7912 3.8265	2.0404 0.6479 0.1902 0.7331 3.7170
0.80	1.9763 0.5976 0.0000 1.0491 4.2272	1.9775 0.5985 0.0366 1.0424 4.2181	1.9812 0.6012 0.0719 1.0228 4.1909	1.9872 0.6056 0.1046 0.9912 4.1463	1.9953 0.6114 0.1334 0.9496 4.0851	2.0053 0.6184 0.1574 0.9001 4.0087	2.0167 0.6262 0.1756 0.8453 3.9188	2.0293 0.6345 0.1873 0.7877 3.8181	2.0425 0.6429 0.1921 0.7300 3.7095
0.85	1.9790 0.5911 0.0000 1.0425 4.2081	1.9802 0.5920 0.0371 1.0359 4.1994	1.9839 0.5948 0.0728 1.0164 4.1732	1.9898 0.5994 0.1059 0.9854 4.1299	1.9979 0.6054 0.1350 0.9442 4.0704	2.0077 0.6126 0.1592 0.8953 3.9958	2.0191 0.6207 0.1775 0.8410 3.9078	2.0316 0.6292 0.1892 0.7840 3.8085	2.0448 0.6379 0.1939 0.7267 3.7009
0.90	1.9818 0.5846 0.0000 1.0355 4.1879	1.9830 0.5855 0.0375 1.0290 4.1794	1.9866 0.5885 0.0737 1.0098 4.1541	1.9925 0.5931 0.1071 0.9792 4.1122	2.0004 0.5994 0.1365 0.9386 4.0545	2.0102 0.6068 0.1609 0.8902 3.9818	2.0215 0.6152 0.1793 0.8365 3.8956	2.0338 0.6240 0.1910 0.7800 3.7978	2.0469 0.6329 0.1956 0.7231 3.6913
0.95	1.9846 0.5780 0.0000 1.0280 4.1664	1.9858 0.5790 0.0380 1.0216 4.1583	1.9894 0.5820 0.0745 1.0028 4.1339	1.9952 0.5869 0.1082 0.9726 4.0935	2.0030 0.5933 0.1380 0.9325 4.0375	2.0127 0.6011 0.1625 0.8848 3.9667	2.0239 0.6097 0.1810 0.8317 3.8823	2.0361 0.6187 0.1928 0.7757 3.7860	2.0490 0.6278 0.1973 0.7193 3.6804
1.00	1.9875 0.5714 0.0000 1.0202 4.1437	1.9887 0.5724 0.0383 1.0139 4.1358	1.9922 0.5756 0.0753 0.9953 4.1123	1.9979 0.5806 0.1094 0.9656 4.0733	2.0057 0.5872 0.1394 0.9261 4.0191	2.0152 0.5952 0.1641 0.8790 3.9503	2.0263 0.6041 0.1827 0.8265 3.8677	2.0384 0.6135 0.1944 0.7711 3.7730	2.0513 0.6228 0.1988 0.7152 3.6685
F_x	0.4349	0.4350	0.4352	0.4356	0.4361	0.4366	0.4373	0.4379	0.4386

$$M_{\infty} = 7, \beta_{\kappa} = 20^{\circ}, \alpha = 5^{\circ}$$

ξ	θ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.00	1.9802 0.7207 0.1229 0.6949 3.1498	1.9880 0.7236 0.1173 0.6429 2.9796	1.9954 0.7263 0.1066 0.5979 2.8291	2.0020 0.7287 0.0913 0.5608 2.7026	2.0075 0.7307 0.0720 0.5321 2.6029	2.0116 0.7322 0.0497 0.5117 2.5313	2.0141 0.7331 0.0253 0.4996 2.4885	2.0338 0.7585 0.0000 0.4956 3.2050	2.0150 0.7334 0.0000 0.4956 2.4738
0.05	2.0191 0.7280 0.1337 0.6953 3.5380	2.0335 0.7333 0.1276 0.6432 3.4342	2.0473 0.7385 0.1164 0.5981 3.3497	2.0599 0.7432 0.1002 0.5610 3.2867	2.0707 0.7472 0.0796 0.5321 3.2447	2.0789 0.7502 0.0554 0.5117 3.2199	2.0841 0.7521 0.0284 0.4995 3.2079	2.0859 0.7528 0.0000 0.4955 3.2044	
0.10	2.0231 0.7227 0.1427 0.6954 3.5678	2.0374 0.7281 0.1365 0.6433 3.4634	2.0510 0.7333 0.1248 0.5982 3.3759	2.0633 0.7380 0.1078 0.5609 3.3074	2.0736 0.7419 0.0859 0.5319 3.2581	2.0814 0.7449 0.0599 0.5114 3.2259	2.0862 0.7467 0.0308 0.4992 3.2083	2.0879 0.7473 0.0000 0.4951 3.2027	
0.15	2.0264 0.7172 0.1495 0.6953 3.5863	2.0406 0.7228 0.1432 0.6432 3.4812	2.0539 0.7281 0.1310 0.5980 3.3912	2.0660 0.7327 0.1132 0.5606 3.3189	2.0760 0.7367 0.0903 0.5315 3.2647	2.0836 0.7396 0.0630 0.5109 3.2279	2.0883 0.7414 0.0324 0.4986 3.2068	2.0899 0.7420 0.0000 0.4945 3.1999	
0.20	2.0292 0.7118 0.1552 0.6950 3.5992	2.0433 0.7175 0.1485 0.6429 3.4933	2.0566 0.7228 0.1359 0.5976 3.4013	2.0684 0.7276 0.1175 0.5601 3.3258	2.0782 0.7315 0.0937 0.5309 3.2680	2.0856 0.7345 0.0654 0.5102 3.2276	2.0902 0.7363 0.0336 0.4978 3.2039	2.0918 0.7369 0.0000 0.4937 3.1962	
0.25	2.0318 0.7064 0.1599 0.6945 3.6084	2.0458 0.7122 0.1531 0.6423 3.5018	2.0590 0.7177 0.1400 0.5970 3.4080	2.0707 0.7225 0.1210 0.5594 3.3299	2.0804 0.7265 0.0965 0.5301 3.2690	2.0877 0.7295 0.0673 0.5093 3.2257	2.0922 0.7313 0.0345 0.4968 3.2001	2.0937 0.7319 0.0000 0.4927 3.1915	
0.30	2.0343 0.7010 0.1641 0.6937 3.6151	2.0482 0.7070 0.1570 0.6416 3.5078	2.0613 0.7126 0.1436 0.5962 3.4123	2.0728 0.7175 0.1240 0.5585 3.3318	2.0824 0.7215 0.0988 0.5291 3.2683	2.0896 0.7246 0.0689 0.5082 3.2226	2.0941 0.7264 0.0353 0.4957 3.1952	2.0956 0.7271 0.0000 0.4915 3.1860	
0.35	2.0367 0.6958 0.1678 0.6927 3.6196	2.0505 0.7019 0.1604 0.6406 3.5116	2.0635 0.7076 0.1466 0.5952 3.4147	2.0749 0.7125 0.1265 0.5574 3.3320	2.0844 0.7166 0.1008 0.5279 3.2661	2.0916 0.7197 0.0702 0.5069 3.2182	2.0959 0.7217 0.0360 0.4943 3.1893	2.0974 0.7223 0.0000 0.4901 3.1796	
0.40	2.0390 0.6906 0.1712 0.6915 3.6223	2.0527 0.6969 0.1635 0.6395 3.5138	2.0656 0.7027 0.1493 0.5940 3.4154	2.0770 0.7077 0.1288 0.5562 3.3307	2.0864 0.7119 0.1025 0.5266 3.2626	2.0935 0.7150 0.0713 0.5054 3.2128	2.0978 0.7169 0.0366 0.4928 3.1825	2.0992 0.7176 0.0000 0.4886 3.1724	
0.45	2.0412 0.6855 0.1742 0.6901 3.6236	2.0549 0.6919 0.1663 0.6381 3.5143	2.0677 0.6978 0.1517 0.5926 3.4146	2.0790 0.7029 0.1308 0.5547 3.3282	2.0883 0.7071 0.1040 0.5250 3.2581	2.0953 0.7103 0.0723 0.5038 3.2064	2.0997 0.7123 0.0371 0.4911 3.1749	2.1011 0.7129 0.0000 0.4868 3.1644	
0.50	2.0434 0.6804 0.1770 0.6885 3.6233	2.0570 0.6870 0.1688 0.6366 3.5135	2.0697 0.6930 0.1539 0.5911 3.4126	2.0810 0.6982 0.1325 0.5531 3.3244	2.0903 0.7025 0.1053 0.5233 3.2525	2.0972 0.7057 0.0732 0.5020 3.1992	2.1015 0.7077 0.0375 0.4892 3.1664	2.1030 0.7083 0.0000 0.4849 3.1555	

$$M_{\infty} = 7, \beta_{\kappa} = 20^{\circ}, \alpha = 5^{\circ}$$

ξ	θ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.55	2.0456 0.6754 0.1795 0.6867 3.6218	2.0591 0.6821 0.1711 0.6348 3.5115	2.0717 0.6883 0.1558 0.5893 3.4094	2.0829 0.6936 0.1341 0.5513 3.3196	2.0922 0.6979 0.1065 0.5214 3.2458	2.0991 0.7011 0.0740 0.5000 3.1910	2.1034 0.7031 0.0379 0.4872 3.1573	2.1048 0.7038 0.0000 0.4829 3.1459	
0.60	2.0477 0.6704 0.1819 0.6847 3.6190	2.0612 0.6773 0.1732 0.6329 3.5082	2.0737 0.6836 0.1576 0.5874 3.4050	2.0849 0.6889 0.1355 0.5493 3.3137	2.0941 0.6933 0.1075 0.5194 3.2383	2.1009 0.6966 0.0746 0.4979 3.1820	2.1052 0.6986 0.0382 0.4850 3.1472	2.1067 0.6992 0.0000 0.4806 3.1355	
0.65	2.0498 0.6655 0.1840 0.6825 3.6151	2.0632 0.6726 0.1751 0.6308 3.5038	2.0757 0.6789 0.1592 0.5853 3.3995	2.0868 0.6844 0.1368 0.5472 3.3068	2.0960 0.6888 0.1084 0.5171 3.2298	2.1028 0.6921 0.0752 0.4955 3.1721	2.1071 0.6941 0.0385 0.4826 3.1364	2.1085 0.6947 0.0000 0.4782 3.1243	
0.70	2.0519 0.6607 0.1861 0.6800 3.6101	2.0652 0.6679 0.1769 0.6285 3.4984	2.0777 0.6743 0.1607 0.5831 3.3931	2.0887 0.6798 0.1379 0.5449 3.2989	2.0979 0.6843 0.1093 0.5147 3.2204	2.1046 0.6876 0.0758 0.4931 3.1613	2.1089 0.6896 0.0388 0.4800 3.1247	2.1104 0.6902 0.0000 0.4757 3.1122	
0.75	2.0540 0.6558 0.1879 0.6774 3.6040	2.0672 0.6632 0.1785 0.6260 3.4919	2.0796 0.6697 0.1620 0.5806 3.3856	2.0906 0.6753 0.1390 0.5424 3.2901	2.0998 0.6798 0.1100 0.5122 3.2100	2.1066 0.6831 0.0763 0.4904 3.1497	2.1108 0.6851 0.0390 0.4773 3.1121	2.1123 0.6858 0.0000 0.4729 3.0994	
0.80	2.0561 0.6510 0.1897 0.6746 3.5968	2.0692 0.6585 0.1800 0.6233 3.4844	2.0816 0.6651 0.1633 0.5780 3.3772	2.0925 0.6708 0.1399 0.5397 3.2803	2.1017 0.6753 0.1107 0.5094 3.1988	2.1085 0.6786 0.0767 0.4876 3.1371	2.1127 0.6806 0.0392 0.4744 3.0987	2.1142 0.6813 0.0000 0.4700 3.0856	
0.85	2.0581 0.6462 0.1913 0.6715 3.5885	2.0713 0.6538 0.1814 0.6204 3.4758	2.0835 0.6606 0.1644 0.5751 3.3677	2.0945 0.6663 0.1408 0.5369 3.2695	2.1036 0.6708 0.1113 0.5065 3.1866	2.1104 0.6741 0.0770 0.4845 3.1237	2.1146 0.6761 0.0394 0.4713 3.0844	2.1161 0.6767 0.0000 0.4669 3.0710	
0.90	2.0602 0.6414 0.1929 0.6682 3.5793	2.0733 0.6492 0.1827 0.6174 3.4662	2.0855 0.6560 0.1654 0.5721 3.3573	2.0964 0.6618 0.1415 0.5338 3.2578	2.1055 0.6663 0.1118 0.5033 3.1735	2.1124 0.6696 0.0774 0.4813 3.1093	2.1166 0.6716 0.0395 0.4680 3.0691	2.1181 0.6722 0.0000 0.4635 3.0553	
0.95	2.0623 0.6365 0.1943 0.6648 3.5689	2.0753 0.6445 0.1839 0.6141 3.4556	2.0875 0.6515 0.1664 0.5689 3.3458	2.0984 0.6572 0.1422 0.5306 3.2451	2.1075 0.6617 0.1123 0.5000 3.1593	2.1143 0.6650 0.0777 0.4779 3.0939	2.1186 0.6670 0.0396 0.4645 3.0528	2.1201 0.6676 0.0000 0.4600 3.0387	
1.00	2.0644 0.6317 0.1957 0.6619 3.5574	2.0773 0.6398 0.1851 0.6105 3.4439	2.0895 0.6469 0.1673 0.5655 3.3333	2.1004 0.6527 0.1429 0.5271 3.2313	2.1095 0.6572 0.1127 0.4965 3.1441	2.1164 0.6604 0.0779 0.4743 3.0774	2.1206 0.6623 0.0398 0.4608 3.0354	2.1221 0.6629 0.0000 0.4563 3.0210	
F_x	0.4392	0.4397	0.4401	0.4403	0.4404	0.4404	0.4403	0.4403	

$$M_{\infty} = 7, \beta_K = 20^\circ, \alpha = 10^\circ$$

ξ	θ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.00	1.8348	1.8362	1.8404	1.8472	1.8566	1.8684	1.8824	1.8982	1.9154
	0.6678	0.6683	0.6698	0.6723	0.6758	0.6800	0.6851	0.6909	0.6972
	0.0000	0.0444	0.0879	0.1293	0.1676	0.2017	0.2307	0.2533	0.2684
	1.4853	1.4670	1.4135	1.3293	1.2211	1.0969	0.9655	0.8350	0.7121
0.05	4.7533	4.7113	4.5880	4.3910	4.1325	3.8279	3.4945	3.1500	2.8114
	1.8377	1.8399	1.8463	1.8569	1.8713	1.8892	1.9101	1.9337	1.9592
	0.6599	0.6608	0.6632	0.6673	0.6728	0.6796	0.6877	0.6966	0.7063
	0.0000	0.0479	0.0945	0.1385	0.1785	0.2133	0.2418	0.2628	0.2752
0.10	1.4851	1.4668	1.4136	1.3297	1.2220	1.0983	0.9673	0.8370	0.7142
	4.7526	4.7190	4.6199	4.4608	4.2504	4.0005	3.7243	3.4368	3.1532
	1.8406	1.8429	1.8497	1.8608	1.8760	1.8947	1.9167	1.9411	1.9676
	0.6521	0.6530	0.6557	0.6602	0.6663	0.6739	0.6827	0.6925	0.7029
0.15	0.0000	0.0505	0.0995	0.1456	0.1873	0.2234	0.2527	0.2741	0.2866
	1.4842	1.4660	1.4131	1.3298	1.2225	1.0994	0.9688	0.8389	0.7163
	4.7506	4.7191	4.6260	4.4764	4.2780	4.0413	3.7788	3.5041	3.2315
	1.8435	1.8459	1.8529	1.8644	1.8799	1.8992	1.9216	1.9466	1.9734
0.20	0.6443	0.6453	0.6482	0.6531	0.6597	0.6679	0.6773	0.6878	0.6989
	0.0000	0.0526	0.1037	0.1516	0.1948	0.2321	0.2622	0.2839	0.2965
	1.4827	1.4647	1.4122	1.3293	1.2227	1.1002	0.9702	0.8407	0.7183
	4.7473	4.7174	4.6290	4.4867	4.2976	4.0712	3.8189	3.5537	3.2890
0.25	1.8465	1.8489	1.8560	1.8677	1.8835	1.9031	1.9258	1.9510	1.9780
	0.6365	0.6376	0.6408	0.6460	0.6531	0.6618	0.6719	0.6829	0.6946
	0.0000	0.0546	0.1074	0.1569	0.2016	0.2399	0.2706	0.2927	0.3053
	1.4807	1.4628	1.4107	1.3284	1.2225	1.1008	0.9714	0.8423	0.7202
0.30	4.7427	4.7142	4.6299	4.4940	4.3128	4.0952	3.8517	3.5944	3.3360
	1.8494	1.8518	1.8591	1.8709	1.8869	1.9066	1.9295	1.9549	1.9819
	0.6288	0.6299	0.6333	0.6389	0.6465	0.6557	0.6664	0.6780	0.6902
	0.0000	0.0563	0.1109	0.1619	0.2077	0.2470	0.2783	0.3007	0.3133
0.35	1.4781	1.4604	1.4087	1.3271	1.2220	1.1010	0.9724	0.8438	0.7220
	4.7368	4.7096	4.6291	4.4989	4.3249	4.1153	3.8797	3.6295	3.3766
	1.8524	1.8548	1.8621	1.8740	1.8901	1.9099	1.9329	1.9583	1.9854
	0.6211	0.6223	0.6259	0.6319	0.6399	0.6497	0.6609	0.6732	0.6859
0.40	0.0000	0.0580	0.1141	0.1665	0.2135	0.2536	0.2855	0.3081	0.3206
	1.4750	1.4575	1.4062	1.3253	1.2211	1.1010	0.9731	0.8452	0.7238
	4.7297	4.7036	4.6266	4.5018	4.3347	4.1325	3.9043	3.6606	3.4126
	1.8553	1.8578	1.8651	1.8769	1.8931	1.9130	1.9360	1.9614	1.9885
0.45	0.6134	0.6147	0.6186	0.6249	0.6334	0.6437	0.6555	0.6683	0.6816
	0.0000	0.0595	0.1171	0.1708	0.2189	0.2598	0.2922	0.3150	0.3273
	1.4714	1.4540	1.4032	1.3231	1.2198	1.1006	0.9737	0.8464	0.7254
	4.7213	4.6964	4.6227	4.5031	4.3425	4.1474	3.9262	3.6886	3.4452
0.50	1.8583	1.8608	1.8681	1.8800	1.8961	1.9160	1.9390	1.9643	1.9913
	0.6058	0.6072	0.6113	0.6179	0.6269	0.6378	0.6502	0.6636	0.6774
	0.0000	0.0610	0.1199	0.1749	0.2240	0.2656	0.2984	0.3214	0.3336
	1.4672	1.4500	1.3998	1.3205	1.2181	1.1000	0.9740	0.8475	0.7270
0.45	4.7117	4.6879	4.6174	4.5028	4.3485	4.1603	3.9459	3.7142	3.4750
	1.8613	1.8637	1.8710	1.8829	1.8991	1.9189	1.9418	1.9670	1.9938
	0.5983	0.5997	0.6040	0.6110	0.6204	0.6319	0.6449	0.6589	0.6732
	0.0000	0.0624	0.1227	0.1788	0.2288	0.2711	0.3044	0.3274	0.3395
0.50	1.4625	1.4455	1.3958	1.3174	1.2161	1.0991	0.9741	0.8484	0.7285
	4.7009	4.6782	4.6108	4.5011	4.3529	4.1714	3.9636	3.7376	3.5026
	1.8643	1.8667	1.8740	1.8859	1.9019	1.9217	1.9444	1.9695	1.9962
	0.5907	0.5923	0.5968	0.6041	0.6140	0.6260	0.6397	0.6543	0.6692
0.50	0.0000	0.0637	0.1253	0.1825	0.2334	0.2764	0.3101	0.3332	0.3450
	1.4572	1.4404	1.3914	1.3140	1.2138	1.0980	0.9740	0.8492	0.7299
	4.6888	4.6672	4.6029	4.4980	4.3558	4.1810	3.9796	3.7592	3.5282

$$M_{\infty} = 7, \beta_K = 20^\circ, \alpha = 10^\circ$$

ξ	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.55	1.8673 0.5832 0.0000 1.4515 4.6756	1.8698 0.5848 0.0650 1.4349 4.6550	1.8770 0.5896 0.1278 1.3866 4.5938	1.8888 0.5973 0.1861 1.3101 4.4936	1.9048 0.6077 0.2379 1.2111 4.3573	1.9244 0.6203 0.2815 1.0965 4.1890	1.9470 0.6345 0.3155 0.9737 3.9941	1.9720 0.6498 0.3386 0.8499 3.7793	1.9984 0.6652 0.3502 0.7311 3.5521
0.60	1.8704 0.5757 0.0000 1.4452 4.6612	1.8728 0.5774 0.0663 1.4289 4.6416	1.8800 0.5824 0.1302 1.3812 4.5834	1.8917 0.5905 0.1895 1.3057 4.4879	1.9076 0.6014 0.2422 1.2080 4.3575	1.9270 0.6145 0.2864 1.0947 4.1957	1.9495 0.6294 0.3206 0.9732 4.0072	1.9743 0.6453 0.3438 0.8504 3.7978	2.0005 0.6614 0.3552 0.7323 3.5746
0.65	1.8734 0.5682 0.0000 1.4384 4.6455	1.8758 0.5700 0.0675 1.4223 4.6270	1.8830 0.5752 0.1325 1.3754 4.5717	1.8946 0.5837 0.1929 1.3010 4.4809	1.9103 0.5951 0.2463 1.2046 4.3563	1.9296 0.6088 0.2911 1.0927 4.2010	1.9519 0.6244 0.3256 0.9725 4.0189	1.9764 0.6409 0.3488 0.8507 3.8151	2.0025 0.6576 0.3599 0.7335 3.5957
0.70	1.8765 0.5607 0.0000 1.4311 4.6286	1.8789 0.5625 0.0686 1.4153 4.6111	1.8860 0.5680 0.1348 1.3691 4.5588	1.8975 0.5769 0.1961 1.2958 4.4726	1.9131 0.5888 0.2503 1.2008 4.3539	1.9322 0.6032 0.2956 1.0904 4.2051	1.9542 0.6194 0.3304 0.9716 4.0294	1.9786 0.6366 0.3536 0.8509 3.8311	2.0044 0.6539 0.3643 0.7345 3.6157
0.75	1.8797 0.5532 0.0000 1.4232 4.6105	1.8820 0.5551 0.0698 1.4077 4.5940	1.8890 0.5608 0.1370 1.3623 4.5446	1.9004 0.5701 0.1992 1.2902 4.4631	1.9158 0.5826 0.2542 1.1967 4.3503	1.9347 0.5976 0.3000 1.0878 4.2079	1.9565 0.6145 0.3350 0.9704 4.0386	1.9806 0.6323 0.3581 0.8510 3.8459	2.0062 0.6503 0.3686 0.7354 3.6344
0.80	1.8828 0.5456 0.0000 1.4148 4.5911	1.8852 0.5476 0.0709 1.3996 4.5756	1.8921 0.5536 0.1392 1.3550 4.5292	1.9033 0.5633 0.2023 1.2842 4.4523	1.9185 0.5763 0.2580 1.1921 4.3453	1.9372 0.5920 0.3042 1.0849 4.2095	1.9588 0.6096 0.3395 0.9690 4.0467	1.9826 0.6281 0.3625 0.8509 3.8596	2.0079 0.6467 0.3726 0.7363 3.6522
0.85	1.8860 0.5380 0.0000 1.4059 4.5704	1.8883 0.5402 0.0720 1.3910 4.5559	1.8951 0.5464 0.1412 1.3472 4.5125	1.9062 0.5565 0.2052 1.2777 4.4402	1.9212 0.5701 0.2616 1.1873 4.3391	1.9397 0.5864 0.3084 1.0817 4.2099	1.9610 0.6047 0.3438 0.9675 4.0536	1.9845 0.6240 0.3668 0.8507 3.8722	2.0095 0.6432 0.3765 0.7371 3.6689
0.90	1.8893 0.5304 0.0000 1.3964 4.5483	1.8916 0.5326 0.0730 1.3818 4.5349	1.8983 0.5392 0.1433 1.3389 4.4944	1.9092 0.5497 0.2081 1.2708 4.4268	1.9240 0.5638 0.2652 1.1820 4.3317	1.9421 0.5808 0.3124 1.0782 4.2091	1.9631 0.5999 0.3480 0.9656 4.0594	1.9863 0.6199 0.3708 0.8503 3.8838	2.0111 0.6398 0.3802 0.7377 3.6848
0.95	1.8926 0.5228 0.0000 1.3864 4.5249	1.8948 0.5251 0.0740 1.3721 4.5125	1.9014 0.5319 0.1453 1.3301 4.4750	1.9122 0.5429 0.2109 1.2634 4.4120	1.9267 0.5576 0.2687 1.1763 4.3229	1.9446 0.5753 0.3163 1.0744 4.2070	1.9653 0.5951 0.3520 0.9636 4.0641	1.9881 0.6159 0.3748 0.8498 3.8944	2.0126 0.6365 0.3838 0.7383 3.6997
1.00	1.8960 0.5150 0.0000 1.3757 4.5001	1.8982 0.5174 0.0750 1.3618 4.4887	1.9046 0.5245 0.1472 1.3207 4.4541	1.9152 0.5360 0.2137 1.2555 4.3959	1.9294 0.5513 0.2720 1.1702 4.3128	1.9470 0.5697 0.3200 1.0702 4.2037	1.9674 0.5903 0.3560 0.9613 4.0676	1.9899 0.6119 0.3786 0.8491 3.9040	2.0141 0.6332 0.3872 0.7388 3.7138
F_x	0.4368	0.4369	0.4375	0.4385	0.4398	0.4414	0.4434	0.4457	0.4482

$$M_{\infty} = 7, \beta_K = 20^\circ, \alpha = 10^\circ$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.00	1.9337 0.7038 0.2746 0.6021 2.4939	1.9524 0.7106 0.2703 0.5083 2.2098	1.9707 0.7173 0.2536 0.4325 1.9690	1.9877 0.7235 0.2223 0.3750 1.7783	2.0023 0.7288 0.1747 0.3349 1.6403	2.0129 0.7326 0.1162 0.3099 1.5519	2.0189 0.7348 0.0572 0.2968 1.5046	2.1327 0.7763 0.0000 0.2927 2.4138	2.0208 0.7355 0.0000 0.2927 1.4898
0.05	1.9861 0.7166 0.2782 0.6041 2.8885	2.0139 0.7270 0.2706 0.5101 2.6574	2.0417 0.7374 0.2514 0.4340 2.4746	2.0686 0.7474 0.2197 0.3760 2.3542	2.0938 0.7567 0.1763 0.3355 2.3098	2.1152 0.7644 0.1240 0.3102 2.3361	2.1296 0.7695 0.0647 0.2968 2.3888	2.1346 0.7712 0.0000 0.2926 2.4132	
0.10	1.9952 0.7138 0.2893 0.6062 2.9757	2.0234 0.7247 0.2814 0.5120 2.7505	2.0511 0.7353 0.2621 0.4355 2.5698	2.0774 0.7452 0.2308 0.3771 2.4458	2.1010 0.7539 0.1878 0.3361 2.3871	2.1200 0.7607 0.1341 0.3103 2.3837	2.1321 0.7652 0.0705 0.2966 2.4023	2.1363 0.7666 0.0000 0.2923 2.4117	
0.15	2.0013 0.7102 0.2990 0.6082 3.0386	2.0295 0.7214 0.2908 0.5138 2.8161	2.0571 0.7321 0.2712 0.4370 2.6342	2.0828 0.7419 0.2397 0.3781 2.5043	2.1054 0.7502 0.1961 0.3367 2.4321	2.1231 0.7567 0.1406 0.3104 2.4086	2.1341 0.7610 0.0740 0.2964 2.4079	2.1379 0.7624 0.0000 0.2920 2.4094	
0.20	2.0060 0.7064 0.3076 0.6102 3.0897	2.0342 0.7179 0.2930 0.5156 2.8683	2.0615 0.7287 0.2790 0.4384 2.6840	2.0868 0.7383 0.2469 0.3791 2.5473	2.1087 0.7464 0.2024 0.3371 2.4633	2.1255 0.7528 0.1451 0.3104 2.4242	2.1359 0.7570 0.0762 0.2960 2.4101	2.1394 0.7584 0.0000 0.2915 2.4065	
0.25	2.0100 0.7025 0.3153 0.6121 3.1335	2.0380 0.7142 0.3063 0.5174 2.9124	2.0651 0.7251 0.2857 0.4399 2.7251	2.0900 0.7347 0.2529 0.3801 2.5814	2.1113 0.7426 0.2073 0.3375 2.4866	2.1276 0.7489 0.1485 0.3103 2.4347	2.1375 0.7531 0.0778 0.2955 2.4104	2.1408 0.7546 0.0000 0.2909 2.4029	
0.30	2.0133 0.6985 0.3223 0.6140 3.1721	2.0412 0.7106 0.3128 0.5191 2.9509	2.0681 0.7216 0.2915 0.4412 2.7602	2.0926 0.7311 0.2579 0.3810 2.6097	2.1136 0.7389 0.2112 0.3378 2.5049	2.1294 0.7451 0.1511 0.3101 2.4420	2.1391 0.7494 0.0790 0.2950 2.4092	2.1423 0.7509 0.0000 0.2902 2.3987	
0.35	2.0163 0.6947 0.3287 0.6158 3.2070	2.0440 0.7070 0.3186 0.5208 2.9853	2.0707 0.7181 0.2966 0.4426 2.7909	2.0950 0.7275 0.2621 0.3818 2.6336	2.1156 0.7353 0.2144 0.3381 2.5196	2.1311 0.7415 0.1531 0.3098 2.4469	2.1405 0.7458 0.0799 0.2943 2.4070	2.1437 0.7473 0.0000 0.2893 2.3939	
0.40	2.0190 0.6909 0.3346 0.6175 3.2389	2.0465 0.7035 0.3239 0.5225 3.0165	2.0730 0.7147 0.3011 0.4439 2.8184	2.0971 0.7241 0.2657 0.3826 2.6544	2.1174 0.7318 0.2170 0.3382 2.5316	2.1327 0.7379 0.1546 0.3094 2.4500	2.1420 0.7423 0.0806 0.2935 2.4038	2.1451 0.7438 0.0000 0.2884 2.3885	
0.45	2.0214 0.6872 0.3400 0.6192 3.2683	2.0488 0.7001 0.3287 0.5241 3.0451	2.0750 0.7114 0.3051 0.4452 2.8432	2.0989 0.7208 0.2688 0.3833 2.6727	2.1191 0.7284 0.2191 0.3383 2.5415	2.1343 0.7345 0.1558 0.3089 2.4517	2.1434 0.7388 0.0811 0.2926 2.3999	2.1465 0.7403 0.0000 0.2874 2.3826	
0.50	2.0236 0.6836 0.3451 0.6209 3.2957	2.0508 0.6968 0.3330 0.5257 3.0715	2.0769 0.7033 0.3026 0.4464 2.8658	2.1007 0.7176 0.2714 0.3840 2.6889	2.1207 0.7251 0.2208 0.3384 2.5496	2.1358 0.7311 0.1567 0.3083 2.4522	2.1448 0.7354 0.0814 0.2917 2.3952	2.1479 0.7369 0.0000 0.2863 2.3761	

$$M_{\infty} = 7, \beta_K = 20^\circ, \alpha = 10^\circ$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.55	2.0257 0.6801 0.3498 0.6225 3.3214	2.0527 0.6937 0.3371 0.5273 3.0962	2.0786 0.7052 0.3118 0.4476 2.8866	2.1023 0.7146 0.2737 0.3846 2.7034	2.1222 0.7219 0.2223 0.3383 2.5564	2.1372 0.7278 0.1574 0.3077 2.4517	2.1462 0.7320 0.0817 0.2906 2.3897	2.1493 0.7335 0.0000 0.2851 2.3690	
0.60	2.0275 0.6767 0.3542 0.6240 3.3455	2.0544 0.6906 0.3408 0.5288 3.1193	2.0802 0.7023 0.3147 0.4488 2.9059	2.1038 0.7116 0.2757 0.3852 2.7165	2.1237 0.7189 0.2234 0.3382 2.5620	2.1386 0.7246 0.1579 0.3069 2.4503	2.1476 0.7287 0.0818 0.2895 2.3836	2.1507 0.7302 0.0000 0.2838 2.3613	
0.65	2.0293 0.6735 0.3584 0.6255 3.3683	2.0560 0.6877 0.3442 0.5303 3.1411	2.0817 0.6995 0.3172 0.4500 2.9239	2.1051 0.7088 0.2773 0.3858 2.7283	2.1251 0.7159 0.2243 0.3381 2.5665	2.1400 0.7214 0.1583 0.3061 2.4480	2.1491 0.7253 0.0819 0.2882 2.3768	2.1521 0.7268 0.0000 0.2824 2.3529	
0.70	2.0310 0.6703 0.3623 0.6270 3.3898	2.0575 0.6848 0.3473 0.5318 3.1617	2.0830 0.6968 0.3195 0.4511 2.9408	2.1065 0.7061 0.2788 0.3863 2.7392	2.1264 0.7130 0.2250 0.3378 2.5701	2.1414 0.7183 0.1585 0.3052 2.4449	2.1505 0.7220 0.0819 0.2868 2.3693	2.1535 0.7234 0.0000 0.2809 2.3439	
0.75	2.0326 0.6672 0.3659 0.6284 3.4104	2.0589 0.6821 0.3502 0.5332 3.1812	2.0843 0.6943 0.3216 0.4522 2.9567	2.1077 0.7035 0.2800 0.3868 2.7491	2.1277 0.7101 0.2255 0.3375 2.5729	2.1427 0.7151 0.1586 0.3042 2.4411	2.1519 0.7187 0.0819 0.2854 2.3611	2.1550 0.7200 0.0000 0.2793 2.3342	
0.80	2.0340 0.6642 0.3694 0.6297 3.4299	2.0602 0.6795 0.3529 0.5346 3.1999	2.0855 0.6918 0.3234 0.4533 2.9718	2.1089 0.7009 0.2810 0.3873 2.7583	2.1289 0.7074 0.2259 0.3372 2.5750	2.1441 0.7120 0.1586 0.3031 2.4366	2.1534 0.7153 0.0818 0.2838 2.3521	2.1565 0.7165 0.0000 0.2775 2.3237	
0.85	2.0354 0.6613 0.3727 0.6310 3.4485	2.0614 0.6770 0.3555 0.5361 3.2177	2.0866 0.6895 0.3251 0.4544 2.9861	2.1100 0.6985 0.2819 0.3877 2.7668	2.1301 0.7047 0.2261 0.3368 2.5764	2.1455 0.7090 0.1585 0.3019 2.4313	2.1549 0.7119 0.0817 0.2821 2.3423	2.1581 0.7130 0.0000 0.2756 2.3123	
0.90	2.0367 0.6584 0.3758 0.6323 3.4663	2.0625 0.6746 0.3578 0.5375 3.2348	2.0876 0.6873 0.3266 0.4555 2.9998	2.1110 0.6962 0.2826 0.3881 2.7747	2.1313 0.7020 0.2262 0.3364 2.5772	2.1468 0.7059 0.1583 0.3007 2.4253	2.1564 0.7084 0.0815 0.2802 2.3316	2.1597 0.7094 0.0000 0.2736 2.3001	
0.95	2.0380 0.6557 0.3788 0.6336 3.4833	2.0636 0.6722 0.3600 0.5388 3.2512	2.0886 0.6851 0.3279 0.4566 3.0129	2.1120 0.6940 0.2831 0.3885 2.7822	2.1325 0.6995 0.2261 0.3359 2.5775	2.1482 0.7028 0.1580 0.2993 2.4186	2.1580 0.7049 0.0812 0.2782 2.3200	2.1613 0.7056 0.0000 0.2714 2.2867	
1.00	2.0392 0.6531 0.3816 0.6347 3.4996	2.0646 0.6700 0.3621 0.5402 3.2671	2.0895 0.6831 0.3291 0.4577 3.0256	2.1130 0.6919 0.2835 0.3889 2.7892	2.1336 0.6970 0.2260 0.3354 2.5772	2.1496 0.6997 0.1576 0.2978 2.4112	2.1597 0.7012 0.0810 0.2761 2.3074	2.1631 0.7018 0.0000 0.2689 2.2721	
F_x	0.4507	0.4531	0.4550	0.4561	0.4563	0.4556	0.4549	0.4545	

$$M_{\infty} = 7, \beta_K = 20^\circ, \alpha = 15^\circ$$

ξ	θ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.00	1.7194	1.7215	1.7278	1.7383	1.7528	1.7710	1.7926	1.8173	1.8445
	0.6258	0.6266	0.6289	0.6327	0.6380	0.6446	0.6525	0.6615	0.6714
	0.0000	0.0666	0.1319	0.1948	0.2539	0.3079	0.3558	0.3959	0.4271
	1.9056	1.8738	1.7816	1.6382	1.4569	1.2539	1.0455	0.8460	0.6665
	5.0295	4.9694	4.7936	4.5146	4.1519	3.7300	3.2758	2.8161	2.3749
0.05	1.7226	1.7256	1.7343	1.7487	1.7682	1.7925	1.8209	1.8528	1.8875
	0.6169	0.6181	0.6215	0.6270	0.6347	0.6442	0.6553	0.6679	0.6815
	0.0000	0.0703	0.1388	0.2040	0.2641	0.3175	0.3629	0.3987	0.4238
	1.9052	1.8736	1.7821	1.6396	1.4594	1.2575	1.0500	0.8511	0.6718
	5.0288	4.9771	4.8249	4.5817	4.2617	3.8846	3.4713	3.0454	2.6286
0.10	1.7259	1.7290	1.7384	1.7537	1.7745	1.8003	1.8303	1.8639	1.9002
	0.6081	0.6094	0.6132	0.6196	0.6283	0.6391	0.6517	0.6659	0.6812
	0.0000	0.0733	0.1446	0.2120	0.2737	0.3279	0.3731	0.4079	0.4311
	1.9041	1.8728	1.7820	1.6405	1.4615	1.2608	1.0543	0.8562	0.6772
	5.0267	4.9781	4.8348	4.6052	4.3020	3.9426	3.5464	3.1354	2.7302
0.15	1.7292	1.7325	1.7422	1.7580	1.7796	1.8063	1.8373	1.8718	1.9090
	0.5993	0.6007	0.6050	0.6120	0.6217	0.6336	0.6476	0.6631	0.6798
	0.0000	0.0760	0.1498	0.2193	0.2825	0.3376	0.3830	0.4172	0.4392
	1.9022	1.8712	1.7812	1.6409	1.4633	1.2640	1.0586	0.8613	0.6827
	5.0232	4.9771	4.8413	4.6229	4.3337	3.9891	3.6075	3.2091	2.8138
0.20	1.7325	1.7358	1.7458	1.7621	1.7842	1.8114	1.8430	1.8780	1.9157
	0.5905	0.5921	0.5968	0.6045	0.6150	0.6280	0.6432	0.6601	0.6781
	0.0000	0.0785	0.1546	0.2261	0.2908	0.3469	0.3925	0.4264	0.4474
	1.8997	1.8690	1.7798	1.6408	1.4647	1.2669	1.0628	0.8664	0.6882
	5.0184	4.9746	4.8454	4.6373	4.3606	4.0297	3.6613	3.2745	2.8883
0.25	1.7358	1.7392	1.7494	1.7659	1.7883	1.8159	1.8479	1.8833	1.9212
	0.5818	0.5835	0.5886	0.5969	0.6083	0.6224	0.6388	0.6569	0.6762
	0.0000	0.0809	0.1592	0.2326	0.2988	0.3557	0.4017	0.4353	0.4555
	1.8954	1.8660	1.7778	1.6402	1.4657	1.2696	1.0669	0.8715	0.6939
	5.0122	4.9706	4.8476	4.6491	4.3843	4.0663	3.7105	3.3347	2.9572
0.30	1.7392	1.7426	1.7529	1.7696	1.7922	1.8200	1.8522	1.8877	1.9258
	0.5731	0.5749	0.5804	0.5894	0.6017	0.6168	0.6344	0.6538	0.6743
	0.0000	0.0831	0.1636	0.2388	0.3064	0.3642	0.4105	0.4440	0.4636
	1.8924	1.8624	1.7752	1.6391	1.4664	1.2720	1.0709	0.8766	0.6996
	5.0047	4.9652	4.8482	4.6589	4.4056	4.1000	3.7565	3.3915	3.0224
0.35	1.7425	1.7460	1.7563	1.7731	1.7959	1.8238	1.8561	1.8916	1.9296
	0.5644	0.5664	0.5723	0.5819	0.5951	0.6112	0.6300	0.6507	0.6725
	0.0000	0.0853	0.1678	0.2448	0.3137	0.3725	0.4191	0.4525	0.4714
	1.8878	1.8581	1.7720	1.6375	1.4667	1.2742	1.0748	0.8818	0.7055
	4.9959	4.9584	4.8472	4.6669	4.4248	4.1315	3.8000	3.4457	3.0849
0.40	1.7459	1.7494	1.7597	1.7766	1.7994	1.8273	1.8596	1.8951	1.9330
	0.5558	0.5580	0.5642	0.5745	0.5885	0.6058	0.6257	0.6477	0.6707
	0.0000	0.0875	0.1720	0.2506	0.3209	0.3805	0.4275	0.4607	0.4791
	1.8824	1.8532	1.7682	1.6354	1.4667	1.2763	1.0787	0.8870	0.7115
	4.9858	4.9502	4.8447	4.6732	4.4422	4.1610	3.8416	3.4979	3.1453
0.45	1.7493	1.7528	1.7631	1.7800	1.8027	1.8306	1.8628	1.8981	1.9358
	0.5472	0.5495	0.5562	0.5671	0.5820	0.6003	0.6215	0.6447	0.6690
	0.0000	0.0895	0.1760	0.2563	0.3279	0.3883	0.4357	0.4688	0.4865
	1.8764	1.8476	1.7638	1.6328	1.4663	1.2781	1.0824	0.8922	0.7176
	4.9744	4.9408	4.8409	4.6781	4.4581	4.1890	3.8816	3.5485	3.2043
0.50	1.7527	1.7562	1.7665	1.7833	1.8060	1.8338	1.8657	1.9009	1.9383
	0.5387	0.5411	0.5482	0.5598	0.5756	0.5950	0.6174	0.6419	0.6674
	0.0000	0.0915	0.1799	0.2618	0.3347	0.3960	0.4437	0.4767	0.4938
	1.8697	1.8413	1.7588	1.6298	1.4655	1.2796	1.0860	0.8975	0.7238
	4.9617	4.9300	4.8357	4.6816	4.4726	4.2156	3.9202	3.5980	3.2621

$$M_{\infty} = 7, \beta_{\kappa} = 20^{\circ}, \alpha = 15^{\circ}$$

ξ	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.55	1.7562 0.5301 0.0000 1.8623 4.9477	1.7597 0.5327 0.0935 1.8344 4.9179	1.7699 0.5402 0.1837 1.7533 4.8291	1.7866 0.5525 0.2672 1.6263 4.6837	1.8092 0.5692 0.3413 1.4644 4.4856	1.8368 0.5897 0.4034 1.2810 4.2409	1.8685 0.6133 0.4516 1.0896 3.9577	1.9033 0.6391 0.4844 0.9027 3.6464	1.9404 0.6659 0.5010 0.7302 3.3189
0.60	1.7597 0.5216 0.0000 1.8542 4.9323	1.7631 0.5242 0.0954 1.8186 4.9044	1.7733 0.5322 0.1874 1.7471 4.8212	1.7899 0.5452 0.2726 1.6222 4.6845	1.8123 0.5628 0.3479 1.4629 4.4975	1.8396 0.5845 0.4108 1.2821 4.2650	1.8710 0.6093 0.4593 1.0931 3.9942	1.9056 0.6364 0.4920 0.9081 3.6940	1.9422 0.6645 0.5079 0.7367 3.3751
0.65	1.7632 0.5130 0.0000 1.8455 4.9157	1.7666 0.5158 0.0973 1.8186 4.8897	1.7767 0.5242 0.1911 1.7404 4.8120	1.7931 0.5379 0.2778 1.6177 4.6840	1.8153 0.5565 0.3543 1.4611 4.5080	1.8423 0.5793 0.4180 1.2830 4.2880	1.8734 0.6054 0.4668 1.0965 4.0298	1.9075 0.6339 0.4993 0.9134 3.7408	1.9437 0.6632 0.5147 0.7433 3.4307
0.70	1.7668 0.5044 0.0000 1.8360 4.8977	1.7701 0.5074 0.0992 1.8097 4.8736	1.7801 0.5162 0.1947 1.7330 4.8015	1.7963 0.5307 0.2829 1.6127 4.6822	1.8182 0.5502 0.3606 1.4588 4.5174	1.8450 0.5742 0.4251 1.2837 4.3100	1.8757 0.6016 0.4742 1.0998 4.0645	1.9093 0.6314 0.5066 0.9189 3.7871	1.9451 0.6621 0.5213 0.7501 3.4860
0.75	1.7704 0.4958 0.0000 1.8259 4.8784	1.7737 0.4989 0.1010 1.8001 4.8562	1.7835 0.5082 0.1982 1.7250 4.7896	1.7996 0.5234 0.2879 1.6072 4.6791	1.8211 0.5439 0.3668 1.4562 4.5256	1.8475 0.5691 0.4321 1.2841 4.3309	1.8778 0.5978 0.4815 1.1030 4.0984	1.9109 0.6290 0.5137 0.9243 3.8328	1.9462 0.6610 0.5278 0.7571 3.5409
0.80	1.7740 0.4872 0.0000 1.8151 4.8577	1.7773 0.4905 0.1028 1.7899 4.8374	1.7870 0.5002 0.2017 1.7165 4.7764	1.8028 0.5162 0.2929 1.6011 4.6747	1.8240 0.5377 0.3729 1.4532 4.5325	1.8499 0.5640 0.4389 1.2843 4.3509	1.8797 0.5942 0.4887 1.1062 4.1316	1.9124 0.6267 0.5207 0.9298 3.8781	1.9471 0.6601 0.5341 0.7642 3.5956
0.85	1.7777 0.4785 0.0000 1.8035 4.8355	1.7809 0.4819 0.1046 1.7789 4.8171	1.7905 0.4922 0.2052 1.7072 4.7617	1.8060 0.5089 0.2978 1.5945 4.6689	1.8268 0.5314 0.3789 1.4498 4.5383	1.8523 0.5590 0.4457 1.2843 4.3698	1.8816 0.5905 0.4958 1.1092 4.1640	1.9137 0.6245 0.5276 0.9354 3.9230	1.9478 0.6593 0.5403 0.7715 3.6501
0.90	1.7815 0.4698 0.0000 1.7912 4.8120	1.7846 0.4734 0.1064 1.7672 4.7955	1.7940 0.4841 0.2086 1.6973 4.7457	1.8092 0.5016 0.3026 1.5874 4.6618	1.8297 0.5252 0.3849 1.4460 4.5429	1.8546 0.5541 0.4524 1.2840 4.3877	1.8834 0.5870 0.5027 1.1121 4.1958	1.9148 0.6224 0.5344 0.9410 3.9675	1.9483 0.6586 0.5463 0.7789 3.7046
0.95	1.7853 0.4609 0.0000 1.7781 4.7868	1.7884 0.4647 0.1081 1.7548 4.7723	1.7976 0.4760 0.2119 1.6868 4.7281	1.8124 0.4943 0.3074 1.5797 4.6533	1.8325 0.5189 0.3908 1.4418 4.5462	1.8569 0.5491 0.4590 1.2834 4.4046	1.8850 0.5834 0.5096 1.1149 4.2268	1.9159 0.6204 0.5410 0.9466 4.0116	1.9487 0.6580 0.5522 0.7865 3.7590
1.00	1.7892 0.4520 0.0000 1.7642 4.7602	1.7922 0.4560 0.1098 1.7415 4.7475	1.8012 0.4678 0.2152 1.6755 4.7090	1.8157 0.4869 0.3121 1.5714 4.6434	1.8352 0.5127 0.3966 1.4371 4.5481	1.8591 0.5441 0.4655 1.2825 4.4205	1.8866 0.5799 0.5164 1.1176 4.2572	1.9168 0.6184 0.5475 0.9523 4.0554	1.9489 0.6575 0.5580 0.7942 3.8135
F_x	0.4400	0.4403	0.4413	0.4430	0.4454	0.4487	0.4528	0.4578	0.4637

$$M_{\infty} = 7, \beta_k = 20^\circ, \alpha = 15^\circ$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.00	1.8737	1.9041	1.9348	1.9650	1.9930	2.0152	2.0321	2.1656	2.0341
	0.6820	0.6930	0.7042	0.7152	0.7254	0.7335	0.7396	0.7882	0.7404
	0.4480	0.4565	0.4516	0.4269	0.3748	0.2846	0.1015	0.0000	0.0000
	0.5136	0.3900	0.2953	0.2274	0.1846	0.1658	0.1627	0.1632	0.1632
	1.9715	1.6197	1.3279	1.1019	0.9494	0.8790	0.8674	1.6589	0.8693
0.05	1.9240	1.9619	2.0000	2.0384	2.0754	2.1097	2.1488	2.1670	
	0.6958	0.7105	0.7250	0.7393	0.7530	0.7669	0.7803	0.7846	
	0.4368	0.4366	0.4214	0.3877	0.3303	0.2262	0.1133	0.0000	
	0.5188	0.3948	0.2994	0.2306	0.1868	0.1669	0.1629	0.1631	
	2.2398	1.8964	1.6077	1.3909	1.2621	1.2382	1.4747	1.6588	
0.10	1.9383	1.9776	2.0171	2.0564	2.0936	2.1281	2.1569	2.1680	
	0.6971	0.7132	0.7288	0.7435	0.7574	0.7708	0.7800	0.7820	
	0.4415	0.4382	0.4197	0.3840	0.3242	0.2314	0.1252	0.0000	
	0.5241	0.3996	0.3035	0.2338	0.1889	0.1679	0.1632	0.1630	
	2.3498	2.0112	1.7260	1.5125	1.3849	1.3938	1.5577	1.6581	
0.15	1.9479	1.9878	2.0278	2.0672	2.1040	2.1367	2.1604	2.1687	
	0.6971	0.7143	0.7306	0.7454	0.7587	0.7707	0.7784	0.7801	
	0.4479	0.4425	0.4220	0.3850	0.3254	0.2385	0.1312	0.0000	
	0.5295	0.4046	0.3077	0.2371	0.1911	0.1689	0.1634	0.1629	
	2.4402	2.1053	1.8218	1.6071	1.4783	1.4806	1.5946	1.6571	
0.20	1.9551	1.9953	2.0354	2.0745	2.1108	2.1418	2.1624	2.1693	
	0.6966	0.7147	0.7316	0.7464	0.7589	0.7694	0.7766	0.7787	
	0.4548	0.4477	0.4258	0.3875	0.3284	0.2440	0.1345	0.0000	
	0.5350	0.4097	0.3121	0.2405	0.1934	0.1700	0.1636	0.1628	
	2.5209	2.1888	1.9056	1.6874	1.5519	1.5380	1.6155	1.6561	
0.25	1.9607	2.0009	2.0410	2.0797	2.1154	2.1451	2.1637	2.1698	
	0.6959	0.7149	0.7322	0.7469	0.7584	0.7678	0.7749	0.7774	
	0.4617	0.4533	0.4300	0.3906	0.3316	0.2479	0.1363	0.0000	
	0.5407	0.4150	0.3167	0.2441	0.1957	0.1712	0.1638	0.1626	
	2.5955	2.2658	1.9816	1.7583	1.6127	1.5797	1.6288	1.6550	
0.30	1.9653	2.0054	2.0452	2.0836	2.1187	2.1474	2.1647	2.1702	
	0.6951	0.7150	0.7328	0.7472	0.7578	0.7661	0.7734	0.7762	
	0.4687	0.4589	0.4342	0.3936	0.3343	0.2505	0.1372	0.0000	
	0.5466	0.4204	0.3214	0.2478	0.1982	0.1723	0.1640	0.1624	
	2.6660	2.3383	2.0523	1.8224	1.6647	1.6120	1.6379	1.6538	
0.35	1.9690	2.0089	2.0484	2.0864	2.1211	2.1491	2.1656	2.1707	
	0.6944	0.7151	0.7333	0.7475	0.7573	0.7646	0.7719	0.7751	
	0.4755	0.4645	0.4384	0.3965	0.3364	0.2520	0.1375	0.0000	
	0.5526	0.4262	0.3264	0.2517	0.2008	0.1734	0.1642	0.1623	
	2.7337	2.4075	2.1191	1.8816	1.7107	1.6384	1.6445	1.6524	
0.40	1.9721	2.0118	2.0509	2.0885	2.1228	2.1504	2.1663	2.1711	
	0.6937	0.7152	0.7338	0.7479	0.7569	0.7632	0.7705	0.7741	
	0.4822	0.4699	0.4424	0.3990	0.3380	0.2529	0.1374	0.0000	
	0.5588	0.4321	0.3316	0.2558	0.2035	0.1746	0.1643	0.1620	
	2.7992	2.4743	2.1829	1.9372	1.7523	1.6608	1.6493	1.6509	
0.45	1.9747	2.0140	2.0527	2.0900	2.1241	2.1514	2.1669	2.1716	
	0.6931	0.7155	0.7345	0.7485	0.7567	0.7620	0.7693	0.7730	
	0.4887	0.4751	0.4461	0.4012	0.3390	0.2531	0.1370	0.0000	
	0.5652	0.4382	0.3369	0.2601	0.2063	0.1758	0.1644	0.1618	
	2.8632	2.5393	2.2445	1.9900	1.7908	1.6803	1.6530	1.6492	
0.50	1.9768	2.0157	2.0541	2.0910	2.1249	2.1522	2.1675	2.1720	
	0.6926	0.7158	0.7354	0.7493	0.7567	0.7611	0.7680	0.7719	
	0.4950	0.4800	0.4495	0.4030	0.3395	0.2528	0.1364	0.0000	
	0.5718	0.4445	0.3425	0.2646	0.2092	0.1770	0.1644	0.1615	
	2.9260	2.6030	2.3043	2.0408	1.8271	1.6979	1.6558	1.6472	

$$M_{\infty} = 7, \beta_{\kappa} = 20^{\circ}, \alpha = 15^{\circ}$$

ξ	θ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.55	1.9785 0.6922 0.5011 0.5785 2.9878	2.0171 0.7163 0.4848 0.4511 2.6655	2.0550 0.7364 0.4527 0.3484 2.3629	2.0916 0.7503 0.4045 0.2692 2.0901	2.1254 0.7570 0.3397 0.2123 1.8619	2.1527 0.7603 0.2522 0.1783 1.7142	2.1681 0.7668 0.1357 0.1645 1.6578	2.1725 0.7707 0.0000 0.1612 1.6449	
0.60	1.9799 0.6920 0.5070 0.5855 3.0490	2.0180 0.7170 0.4893 0.4579 2.7274	2.0556 0.7375 0.4555 0.3545 2.4205	2.0918 0.7515 0.4057 0.2741 2.1384	2.1256 0.7576 0.3394 0.2156 1.8957	2.1532 0.7598 0.2512 0.1796 1.7296	2.1686 0.7656 0.1348 0.1645 1.6593	2.1731 0.7695 0.0000 0.1609 1.6423	
0.65	1.9810 0.6919 0.5127 0.5927 3.1098	2.0187 0.7178 0.4936 0.4649 2.7887	2.0558 0.7389 0.4582 0.3608 2.4775	2.0918 0.7529 0.4066 0.2792 2.1860	2.1255 0.7585 0.3388 0.2190 1.9289	2.1534 0.7594 0.2499 0.1810 1.7445	2.1692 0.7645 0.1339 0.1645 1.6603	2.1736 0.7682 0.0000 0.1605 1.6393	
0.70	1.9819 0.6919 0.5183 0.6001 3.1702	2.0190 0.7188 0.4977 0.4722 2.8497	2.0557 0.7405 0.4606 0.3674 2.5340	2.0915 0.7546 0.4072 0.2846 2.2331	2.1252 0.7597 0.3380 0.2226 1.9619	2.1535 0.7594 0.2484 0.1825 1.7592	2.1697 0.7633 0.1328 0.1644 1.6609	2.1743 0.7668 0.0000 0.1600 1.6359	
0.75	1.9824 0.6921 0.5237 0.6078 3.2304	2.0191 0.7199 0.5016 0.4798 2.9105	2.0554 0.7422 0.4627 0.3742 2.5904	2.0909 0.7566 0.4075 0.2902 2.2801	2.1247 0.7612 0.3369 0.2264 1.9950	2.1535 0.7595 0.2467 0.1841 1.7740	2.1702 0.7621 0.1316 0.1643 1.6611	2.1750 0.7653 0.0000 0.1594 1.6318	
0.80	1.9828 0.6924 0.5289 0.6156 3.2906	2.0190 0.7212 0.5053 0.4876 2.9712	2.0549 0.7442 0.4647 0.3813 2.6466	2.0902 0.7587 0.4077 0.2960 2.3272	2.1240 0.7629 0.3355 0.2305 2.0285	2.1534 0.7599 0.2448 0.1858 1.7891	2.1708 0.7609 0.1303 0.1642 1.6610	2.1757 0.7636 0.0000 0.1588 1.6270	
0.85	1.9829 0.6928 0.5339 0.6237 3.3508	2.0186 0.7226 0.5089 0.4957 3.0321	2.0541 0.7463 0.4664 0.3887 2.7031	2.0892 0.7611 0.4076 0.3021 2.3746	2.1231 0.7650 0.3340 0.2347 2.0626	2.1531 0.7605 0.2427 0.1877 1.8048	2.1714 0.7597 0.1290 0.1641 1.6605	2.1766 0.7618 0.0000 0.1580 1.6214	
0.90	1.9829 0.6934 0.5388 0.6321 3.4112	2.0181 0.7243 0.5122 0.5041 3.0932	2.0532 0.7486 0.4680 0.3963 2.7597	2.0880 0.7637 0.4074 0.3084 2.4223	2.1220 0.7673 0.3323 0.2392 2.0974	2.1526 0.7615 0.2405 0.1897 1.8214	2.1720 0.7585 0.1275 0.1639 1.6596	2.1776 0.7597 0.0000 0.1571 1.6147	
0.95	1.9827 0.6941 0.5435 0.6407 3.4717	2.0173 0.7260 0.5154 0.5127 3.1545	2.0521 0.7511 0.4694 0.4042 2.8167	2.0867 0.7666 0.4070 0.3150 2.4705	2.1207 0.7700 0.3305 0.2440 2.1330	2.1520 0.7627 0.2381 0.1920 1.8330	2.1726 0.7573 0.1259 0.1637 1.6585	2.1787 0.7573 0.0000 0.1560 1.6066	
1.00	1.9823 0.6949 0.5481 0.6495 3.5325	2.0164 0.7279 0.5184 0.5217 3.2163	2.0508 0.7538 0.4707 0.4125 2.8742	2.0852 0.7696 0.4065 0.3218 2.5192	2.1193 0.7729 0.3285 0.2490 2.1697	2.1512 0.7643 0.2356 0.1944 1.8579	2.1732 0.7560 0.1242 0.1634 1.6571	2.1801 0.7545 0.0000 0.1546 1.5966	
F_x	0.4705	0.4778	0.4854	0.4922	0.4970	0.4972	0.4927	0.4897	

$$M_{\infty} = 7, \beta_k = 25^\circ, \alpha = 5^\circ$$

ξ	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.00	1.7619	1.7626	1.7649	1.7685	1.7735	1.7796	1.7867	1.7946	1.8030
	0.8216	0.8219	0.8230	0.8247	0.8270	0.8298	0.8332	0.8368	0.8407
	0.0000	0.0210	0.0412	0.0602	0.0771	0.0913	0.1024	0.1097	0.1128
	1.5092	1.5006	1.4751	1.4343	1.3807	1.3172	1.2472	1.1742	1.1017
0.05	4.7573	4.7378	4.6802	4.5875	4.4643	4.3166	4.1515	3.9766	3.7995
	1.7653	1.7668	1.7712	1.7784	1.7883	1.8005	1.8147	1.8305	1.8474
	0.8144	0.8151	0.8172	0.8207	0.8254	0.8312	0.8380	0.8455	0.8536
	0.0000	0.0238	0.0468	0.0682	0.0872	0.1031	0.1153	0.1232	0.1265
0.10	1.5089	1.5003	1.4749	1.4342	1.3807	1.3172	1.2473	1.1745	1.1019
	4.7565	4.7442	4.7081	4.6503	4.5741	4.4840	4.3855	4.2844	4.1868
	1.7687	1.7702	1.7748	1.7822	1.7923	1.8048	1.8193	1.8353	1.8523
	0.8072	0.8079	0.8102	0.8139	0.8188	0.8250	0.8320	0.8399	0.8482
0.15	0.0000	0.0257	0.0505	0.0735	0.0940	0.1112	0.1245	0.1332	0.1371
	1.5081	1.4995	1.4741	1.4336	1.3802	1.3169	1.2471	1.1743	1.1018
	4.7546	4.7431	4.7092	4.6548	4.5830	4.4979	4.4042	4.3075	4.2130
	1.7720	1.7736	1.7782	1.7858	1.7961	1.8087	1.8233	1.8394	1.8564
0.20	0.8001	0.8009	0.8032	0.8070	0.8122	0.8186	0.8259	0.8340	0.8425
	0.0000	0.0271	0.0533	0.0777	0.0994	0.1176	0.1317	0.1410	0.1452
	1.5067	1.4981	1.4729	1.4324	1.3792	1.3161	1.2465	1.1738	1.1014
	4.7514	4.7405	4.7082	4.6562	4.5876	4.5058	4.4156	4.3217	4.2292
0.25	1.7754	1.7770	1.7817	1.7893	1.7996	1.8123	1.8270	1.8431	1.8601
	0.7930	0.7939	0.7963	0.8003	0.8056	0.8122	0.8198	0.8280	0.8367
	0.0000	0.0284	0.0558	0.0813	0.1039	0.1230	0.1377	0.1475	0.1519
	1.5048	1.4962	1.4711	1.4308	1.3778	1.3149	1.2455	1.1730	1.1007
0.30	4.7471	4.7366	4.7055	4.6557	4.5895	4.5105	4.4230	4.3313	4.2404
	1.7788	1.7804	1.7851	1.7927	1.8031	1.8158	1.8305	1.8466	1.8635
	0.7861	0.7869	0.7894	0.7935	0.7991	0.8059	0.8136	0.8221	0.8310
	0.0000	0.0295	0.0579	0.0844	0.1079	0.1277	0.1430	0.1532	0.1577
0.35	1.5023	1.4938	1.4688	1.4287	1.3759	1.3132	1.2441	1.1717	1.0996
	4.7415	4.7314	4.7015	4.6534	4.5895	4.5129	4.4276	4.3379	4.2482
	1.7822	1.7838	1.7885	1.7962	1.8065	1.8192	1.8339	1.8499	1.8668
	0.7792	0.7800	0.7826	0.7869	0.7926	0.7996	0.8075	0.8162	0.8253
0.40	0.0000	0.0305	0.0599	0.0872	0.1115	0.1320	0.1477	0.1582	0.1629
	1.4993	1.4909	1.4660	1.4261	1.3736	1.3112	1.2423	1.1702	1.0982
	4.7348	4.7250	4.6962	4.6497	4.5878	4.5134	4.4301	4.3421	4.2534
	1.7856	1.7872	1.7919	1.7995	1.8099	1.8226	1.8372	1.8532	1.8700
0.45	0.7723	0.7732	0.7759	0.7803	0.7861	0.7933	0.8015	0.8104	0.8196
	0.0000	0.0314	0.0617	0.0898	0.1148	0.1358	0.1520	0.1627	0.1675
	1.4958	1.4874	1.4627	1.4231	1.3708	1.3087	1.2401	1.1683	1.0965
	4.7270	4.7175	4.6897	4.6447	4.5846	4.5122	4.4308	4.3443	4.2566
0.50	1.7890	1.7906	1.7953	1.8029	1.8132	1.8259	1.8404	1.8564	1.8731
	0.7655	0.7665	0.7692	0.7737	0.7797	0.7871	0.7955	0.8046	0.8141
	0.0000	0.0322	0.0633	0.0922	0.1178	0.1394	0.1559	0.1669	0.1718
	1.4919	1.4835	1.4590	1.4196	1.3676	1.3059	1.2376	1.1660	1.0944
0.55	4.7180	4.7089	4.6819	4.6384	4.5800	4.5095	4.4299	4.3449	4.2581
	1.7924	1.7940	1.7986	1.8062	1.8165	1.8291	1.8436	1.8595	1.8762
	0.7588	0.7598	0.7626	0.7672	0.7734	0.7810	0.7896	0.7989	0.8085
	0.0000	0.0330	0.0648	0.0944	0.1207	0.1426	0.1595	0.1707	0.1756
0.60	1.4874	1.4791	1.4547	1.4156	1.3640	1.3027	1.2347	1.1634	1.0921
	4.7079	4.6991	4.6731	4.6308	4.5742	4.5054	4.4276	4.3439	4.2580
	1.7958	1.7974	1.8020	1.8096	1.8198	1.8324	1.8468	1.8626	1.8792
	0.7521	0.7531	0.7560	0.7607	0.7671	0.7749	0.7837	0.7932	0.8030
0.65	0.0000	0.0337	0.0663	0.0965	0.1233	0.1457	0.1629	0.1742	0.1792
	1.4825	1.4743	1.4501	1.4113	1.3600	1.2990	1.2315	1.1605	1.0895
	4.6968	4.6883	4.6631	4.6221	4.5671	4.5001	4.4239	4.3416	4.2564
	1.7992	1.8008	1.8054	1.8130	1.8232	1.8358	1.8499	1.8654	1.8814

$$M_{\infty} = 7, \beta_{\kappa} = 25^{\circ}, \alpha = 5^{\circ}$$

ξ	θ								
	0°00	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.55	1.7992	1.8008	1.8054	1.8129	1.8231	1.8356	1.8500	1.8657	1.8821
	0.7454	0.7464	0.7495	0.7543	0.7609	0.7688	0.7778	0.7875	0.7976
	0.0000	0.0344	0.0676	0.0984	0.1257	0.1486	0.1661	0.1775	0.1825
	1.4771	1.4689	1.4449	1.4064	1.3556	1.2950	1.2279	1.1573	1.0866
0.60	4.6845	4.6763	4.6519	4.6123	4.5589	4.4936	4.4190	4.3379	4.2536
	1.8026	1.8042	1.8088	1.8163	1.8264	1.8388	1.8531	1.8687	1.8851
	0.7388	0.7398	0.7429	0.7479	0.7546	0.7628	0.7720	0.7819	0.7922
	0.0000	0.0351	0.0689	0.1003	0.1281	0.1513	0.1690	0.1806	0.1856
0.65	1.4712	1.4631	1.4393	1.4012	1.3507	1.2906	1.2239	1.1538	1.0833
	4.6712	4.6633	4.6397	4.6013	4.5495	4.4858	4.4128	4.3330	4.2495
	1.8061	1.8076	1.8122	1.8196	1.8297	1.8420	1.8562	1.8717	1.8880
	0.7322	0.7333	0.7364	0.7416	0.7484	0.7568	0.7662	0.7764	0.7869
0.70	0.0000	0.0357	0.0701	0.1020	0.1303	0.1538	0.1718	0.1835	0.1885
	1.4649	1.4569	1.4333	1.3955	1.3455	1.2859	1.2196	1.1499	1.0798
	4.6568	4.6492	4.6264	4.5893	4.5389	4.4770	4.4055	4.3269	4.2442
	1.8096	1.8111	1.8156	1.8230	1.8330	1.8452	1.8593	1.8747	1.8908
0.75	0.7256	0.7267	0.7300	0.7352	0.7423	0.7508	0.7605	0.7709	0.7815
	0.0000	0.0363	0.0713	0.1037	0.1324	0.1562	0.1745	0.1863	0.1912
	1.4581	1.4501	1.4268	1.3894	1.3398	1.2807	1.2150	1.1457	1.0760
	4.6414	4.6340	4.6120	4.5761	4.5273	4.4669	4.3970	4.3197	4.2378
0.80	1.8130	1.8146	1.8191	1.8264	1.8363	1.8484	1.8624	1.8777	1.8937
	0.7190	0.7202	0.7235	0.7289	0.7361	0.7449	0.7547	0.7654	0.7763
	0.0000	0.0368	0.0724	0.1053	0.1343	0.1585	0.1770	0.1889	0.1938
	1.4508	1.4430	1.4199	1.3829	1.3338	1.2752	1.2100	1.1412	1.0719
0.85	4.6248	4.6177	4.5965	4.5618	4.5145	4.4558	4.3874	4.3114	4.2303
	1.8166	1.8181	1.8225	1.8298	1.8396	1.8516	1.8655	1.8806	1.8966
	0.7124	0.7136	0.7170	0.7226	0.7300	0.7389	0.7490	0.7599	0.7710
	0.0000	0.0374	0.0734	0.1068	0.1362	0.1607	0.1793	0.1913	0.1962
0.90	1.4430	1.4353	1.4125	1.3759	1.3273	1.2693	1.2047	1.1364	1.0675
	4.6072	4.6003	4.5799	4.5465	4.5006	4.4435	4.3767	4.3019	4.2216
	1.8201	1.8216	1.8260	1.8332	1.8429	1.8549	1.8686	1.8836	1.8995
	0.7059	0.7070	0.7106	0.7162	0.7238	0.7330	0.7433	0.7544	0.7657
0.95	0.0000	0.0379	0.0744	0.1082	0.1381	0.1628	0.1816	0.1936	0.1984
	1.4348	1.4272	1.4047	1.3685	1.3204	1.2630	1.1990	1.1313	1.0628
	4.5884	4.5818	4.5622	4.5299	4.4856	4.4301	4.3648	4.2913	4.2119
	1.8237	1.8252	1.8295	1.8367	1.8463	1.8581	1.8717	1.8866	1.9023
1.00	0.6993	0.7005	0.7041	0.7099	0.7177	0.7271	0.7376	0.7489	0.7605
	0.0000	0.0384	0.0754	0.1096	0.1398	0.1648	0.1837	0.1958	0.2006
	1.4261	1.4186	1.3963	1.3606	1.3131	1.2563	1.1929	1.1258	1.0578
	4.5685	4.5622	4.5434	4.5123	4.4695	4.4156	4.3518	4.2797	4.2011
F _x	1.8273	1.8288	1.8331	1.8402	1.8497	1.8614	1.8749	1.8896	1.9052
	0.6926	0.6939	0.6976	0.7035	0.7115	0.7211	0.7319	0.7435	0.7552
	0.0000	0.0389	0.0763	0.1109	0.1415	0.1667	0.1858	0.1979	0.2027
	1.4169	1.4095	1.3875	1.3523	1.3054	1.2493	1.1865	1.1200	1.0525
F _x	4.5474	4.5414	4.5233	4.4935	4.4522	4.3999	4.3377	4.2669	4.1892
	1.8310	1.8325	1.8367	1.8437	1.8531	1.8647	1.8780	1.8927	1.9081
	0.6860	0.6872	0.6910	0.6972	0.7053	0.7151	0.7262	0.7380	0.7500
	0.0000	0.0393	0.0772	0.1122	0.1430	0.1686	0.1878	0.2000	0.2046
F _x	1.4072	1.3999	1.3782	1.3435	1.2972	1.2418	1.1797	1.1138	1.0469
	4.5251	4.5193	4.5021	4.4735	4.4336	4.3831	4.3225	4.2529	4.1762
	0.5548	0.5549	0.5549	0.5550	0.5551	0.5552	0.5553	0.5552	0.5551

$$M_{\infty} = 7, \beta_{\kappa} = 25^{\circ}, \alpha = 5^{\circ}$$

ξ	θ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.00	1.8115 0.8447 0.1115 1.0325 3.6275	1.8199 0.8486 0.1057 0.9692 3.4673	1.8277 0.8523 0.0954 0.9138 3.3243	1.8346 0.8555 0.0813 0.8674 3.2030	1.8404 0.8582 0.0638 0.8310 3.1063	1.8446 0.8602 0.0440 0.8048 3.0362	1.8473 0.8614 0.0223 0.7892 2.9939	1.9414 0.9053 0.0000 0.7840 3.8883	1.8481 2.8618 0.0000 0.7840 2.9797
0.05	1.8649 0.8619 0.1250 1.0327 4.0983	1.8822 0.8701 0.1186 0.9694 4.0239	1.8987 0.8780 0.1075 0.9139 3.9665	1.9137 0.8851 0.0920 0.8674 3.9270	1.9264 0.8911 0.0727 0.8309 3.9037	1.9360 0.8956 0.0504 0.8047 3.8924	1.9421 0.8985 0.0257 0.7890 3.8882	1.9441 0.8994 0.0000 0.7818 3.8873	
0.10	1.8697 0.8566 0.1357 1.0327 4.1261	1.8869 0.8649 0.1292 0.9693 4.0509	1.9031 0.8728 0.1175 0.9137 3.9904	1.9177 0.8798 0.1009 0.8672 3.9456	1.9299 0.8857 0.0800 0.8306 3.9155	1.9391 0.8901 0.0556 0.8043 3.8974	1.9448 0.8929 0.0284 0.7886 3.8883	1.9468 0.8938 0.0000 0.7833 3.8855	
0.15	1.8737 0.8511 0.1439 1.0323 4.1430	1.8908 0.8595 0.1371 0.9689 4.0671	1.9068 0.8674 0.1249 0.9132 4.0043	1.9211 0.8745 0.1074 0.8666 3.9558	1.9330 0.8803 0.0853 0.8299 3.9212	1.9419 0.8847 0.0593 0.8036 3.8988	1.9475 0.8875 0.0303 0.7878 3.8866	1.9494 0.8884 0.0000 0.7825 3.8827	
0.20	1.8773 0.8455 0.1507 1.0316 4.1547	1.8942 0.8541 0.1436 0.9682 4.0780	1.9101 0.8620 0.1308 0.9125 4.0133	1.9242 0.8691 0.1126 0.8658 3.9618	1.9359 0.8750 0.0894 0.8290 3.9238	1.9446 0.8794 0.0621 0.8026 3.8982	1.9501 0.8822 0.0318 0.7867 3.8836	1.9519 0.8831 0.0000 0.7814 3.8788	
0.25	1.8807 0.8399 0.1565 1.0306 4.1628	1.8975 0.8486 0.1492 0.9672 4.0854	1.9132 0.8567 0.1359 0.9114 4.0190	1.9271 0.8639 0.1170 0.8647 3.9651	1.9386 0.8698 0.0929 0.8278 3.9242	1.9473 0.8742 0.0645 0.8013 3.8959	1.9526 0.8770 0.0330 0.7854 3.8794	1.9544 0.8779 0.0000 0.7800 3.8740	
0.30	1.8839 0.8344 0.1615 1.0293 4.1683	1.9006 0.8432 0.1540 0.9659 4.0903	1.9161 0.8514 0.1403 0.9101 4.0223	1.9299 0.8587 0.1207 0.8633 3.9662	1.9413 0.8646 0.0958 0.8264 3.9229	1.9499 0.8691 0.0666 0.7998 3.8923	1.9551 0.8719 0.0341 0.7838 3.8742	1.9569 0.8728 0.0000 0.7784 3.8682	
0.35	1.8870 0.8289 0.1661 1.0277 4.1717	1.9036 0.8379 0.1583 0.9644 4.0931	1.9190 0.8462 0.1441 0.9086 4.0238	1.9327 0.8535 0.1240 0.8617 3.9657	1.9440 0.8596 0.0984 0.8246 3.9202	1.9524 0.8641 0.0683 0.7980 3.8876	1.9576 0.8669 0.0350 0.7819 3.8681	1.9594 0.8679 0.0000 0.7765 3.8616	
0.40	1.8901 0.8235 0.1702 1.0258 4.1734	1.9065 0.8327 0.1621 0.9626 4.0942	1.9218 0.8411 0.1476 0.9067 4.0236	1.9354 0.8485 0.1269 0.8598 3.9637	1.9466 0.8546 0.1006 0.8227 3.9162	1.9549 0.8592 0.0699 0.7959 3.8818	1.9601 0.8620 0.0358 0.7798 3.8611	1.9618 0.8630 0.0000 0.7744 3.8541	
0.45	1.8930 0.8182 0.1740 1.0236 4.1734	1.9094 0.8274 0.1656 0.9605 4.0937	1.9246 0.8360 0.1507 0.9047 4.0219	1.9380 0.8435 0.1295 0.8577 3.9604	1.9491 0.8497 0.1026 0.8205 3.9110	1.9574 0.8543 0.0712 0.7937 3.8750	1.9625 0.8572 0.0364 0.7775 3.8531	1.9642 0.8582 0.0000 0.7721 3.8457	
0.50	1.8959 0.8129 0.1774 1.0212 4.1721	1.9122 0.8223 0.1688 0.9581 4.0919	1.9273 0.8310 0.1535 0.9023 4.0189	1.9406 0.8386 0.1318 0.8553 3.9559	1.9516 0.8449 0.1045 0.8181 3.9048	1.9599 0.8495 0.0725 0.7912 3.8673	1.9649 0.8524 0.0371 0.7743 3.8444	1.9667 0.8534 0.0000 0.7695 3.8356	

$$M_{\infty} = 7, \beta_{\kappa} = 25^{\circ}, \alpha = 5^{\circ}$$

η	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.55	1.8988 0.8076 0.1806 1.0184 4.1694	1.9149 0.8172 0.1718 0.9555 4.0888	1.9299 0.8260 0.1561 0.8998 4.0148	1.9432 0.8337 0.1340 0.8527 3.9503	1.9541 0.8401 0.1061 0.8154 3.8976	1.9623 0.8448 0.0736 0.7884 3.8586	1.9673 0.8477 0.0376 0.7722 3.8347	1.9691 0.8487 0.0000 0.7667 3.8266	
0.60	1.9016 0.8024 0.1836 1.0154 4.1655	1.9176 0.8122 0.1745 0.9526 4.0844	1.9326 0.8211 0.1585 0.8969 4.0094	1.9458 0.8289 0.1359 0.8499 3.9436	1.9566 0.8353 0.1076 0.8125 3.8894	1.9648 0.8401 0.0746 0.7855 3.8491	1.9698 0.8430 0.0381 0.7692 3.8243	1.9715 0.8440 0.0000 0.7637 3.8159	
0.65	1.9044 0.7972 0.1863 1.0122 4.1605	1.9203 0.8071 0.1770 0.9495 4.0790	1.9352 0.8162 0.1607 0.8939 4.0030	1.9483 0.8241 0.1377 0.8468 3.9359	1.9591 0.8306 0.1090 0.8094 3.8803	1.9672 0.8354 0.0755 0.7823 3.8387	1.9722 0.8384 0.0386 0.7659 3.8130	1.9739 0.8394 0.0000 0.7604 3.8043	
0.70	1.9072 0.7921 0.1889 1.0086 4.1543	1.9230 0.8022 0.1793 0.9461 4.0724	1.9378 0.8114 0.1627 0.8906 3.9956	1.9508 0.8194 0.1394 0.8435 3.9272	1.9616 0.8259 0.1102 0.8060 3.8702	1.9696 0.8308 0.0763 0.7789 3.8275	1.9746 0.8338 0.0390 0.7625 3.8009	1.9763 0.8348 0.0000 0.7570 3.7919	
0.75	1.9099 0.7870 0.1913 1.0048 4.1470	1.9257 0.7972 0.1815 0.9425 4.0648	1.9404 0.8066 0.1646 0.8870 3.9871	1.9534 0.8146 0.1409 0.8400 3.9175	1.9641 0.8213 0.1114 0.8025 3.8593	1.9721 0.8262 0.0771 0.7753 3.8153	1.9770 0.8292 0.0394 0.7588 3.7880	1.9787 0.8302 0.0000 0.7533 3.7787	
0.80	1.9127 0.7819 0.1936 1.0008 4.1386	1.9284 0.7923 0.1836 0.9386 4.0561	1.9430 0.8018 0.1663 0.8832 3.9777	1.9559 0.8099 0.1424 0.8362 3.9069	1.9666 0.8166 0.1125 0.7987 3.8474	1.9745 0.8216 0.0778 0.7714 3.8023	1.9795 0.8246 0.0398 0.7549 3.7742	1.9811 0.8256 0.0000 0.7494 3.7646	
0.85	1.9155 0.7769 0.1957 0.9964 4.1292	1.9311 0.7874 0.1855 0.9345 4.0464	1.9456 0.7970 0.1680 0.8792 3.9672	1.9584 0.8053 0.1437 0.8322 3.8953	1.9691 0.8120 0.1135 0.7946 3.8346	1.9770 0.8170 0.0785 0.7673 3.7884	1.9819 0.8200 0.0401 0.7508 3.7596	1.9836 0.8210 0.0000 0.7452 3.7497	
0.90	1.9182 0.7718 0.1978 0.9918 4.1187	1.9337 0.7825 0.1873 0.9301 4.0357	1.9482 0.7922 0.1695 0.8749 3.9557	1.9610 0.8006 0.1449 0.8279 3.8828	1.9716 0.8074 0.1144 0.7903 3.8209	1.9795 0.8124 0.0791 0.7630 3.7736	1.9844 0.8154 0.0404 0.7464 3.7441	1.9861 0.8165 0.0000 0.7408 3.7339	
0.95	1.9210 0.7668 0.1997 0.9868 4.1072	1.9364 0.7776 0.1890 0.9254 4.0239	1.9508 0.7874 0.1709 0.8704 3.9433	1.9636 0.7959 0.1461 0.8234 3.8693	1.9741 0.8027 0.1152 0.7858 3.8062	1.9820 0.8077 0.0796 0.7584 3.7579	1.9869 0.8108 0.0406 0.7418 3.7276	1.9886 0.8118 0.0000 0.7362 3.7172	
1.00	1.9238 0.7617 0.2015 0.9816 4.0945	1.9391 0.7727 0.1906 0.9205 4.0111	1.9534 0.7827 0.1723 0.8656 3.9298	1.9662 0.7912 0.1471 0.8187 3.8547	1.9767 0.7981 0.1160 0.7810 3.7905	1.9846 0.8031 0.0801 0.7536 3.7412	1.9895 0.8062 0.0409 0.7369 3.7102	1.9912 0.8072 0.0000 0.7313 3.6996	
F_x	0.5549	0.5545	0.5540	0.5535	0.5529	0.5524	0.5521	0.5520	

$$M_{\infty} = 7, \beta_K = 25^\circ, \alpha = 10^\circ$$

ξ	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.00°	1.6484 0.7687 0.0000 1.9341 5.0296	1.6500 0.7694 0.0426 1.9138 4.9918	1.6547 0.7716 0.0841 1.8543 4.8805	1.6624 0.7752 0.1234 1.7602 4.7023	1.6730 0.7801 0.1594 1.6384 4.4675	1.6862 0.7863 0.1908 1.4974 4.1893	1.7018 0.7936 0.2167 1.3462 3.8826	1.7194 0.8018 0.2358 1.1937 3.5632	1.7385 0.8107 0.2469 1.0477 3.2462
0.05	1.6522 0.7606 0.0000 1.9338 5.0290	1.6549 0.7619 0.0468 1.9135 5.0004	1.6627 0.7657 0.0922 1.8543 4.9163	1.6757 0.7719 0.1347 1.7606 4.7814	1.6933 0.7804 0.1729 1.6392 4.6032	1.7152 0.7909 0.2057 1.4985 4.3917	1.7410 0.8033 0.2317 1.3477 4.1586	1.7698 0.8172 0.2498 1.1954 3.9172	1.8012 0.8322 0.2590 1.0495 3.6816
0.10	1.6560 0.7525 0.0000 1.9327 5.0270	1.6588 0.7539 0.0498 1.9125 5.0004	1.6671 0.7581 0.0980 1.8536 4.9222	1.6807 0.7648 0.1430 1.7603 4.7964	1.6992 0.7741 0.1835 1.6395 4.6299	1.7222 0.7855 0.2181 1.4993 4.4317	1.7490 0.7988 0.2454 1.3489 4.2126	1.7789 0.8136 0.2645 1.1969 3.9849	1.8112 0.8294 0.2743 1.0511 3.7617
0.15	1.6599 0.7445 0.0000 1.9309 5.0237	1.6628 0.7460 0.0522 1.9109 4.9986	1.6713 0.7504 0.1028 1.8523 4.9248	1.6853 0.7576 0.1501 1.7595 4.8060	1.7043 0.7674 0.1924 1.6393 4.6484	1.7278 0.7795 0.2285 1.4998 4.4602	1.7552 0.7935 0.2570 1.3499 4.2514	1.7856 0.8090 0.2769 1.1983 4.0335	1.8183 0.8255 0.2872 1.0527 3.8187
0.20	1.6637 0.7365 0.0000 1.9285 5.0191	1.6667 0.7381 0.0544 1.9086 4.9954	1.6754 0.7427 0.1071 1.8504 4.9253	1.6896 0.7504 0.1563 1.7582 4.8125	1.7089 0.7607 0.2003 1.6386 4.6624	1.7327 0.7733 0.2377 1.4998 4.4826	1.7604 0.7880 0.2673 1.3506 4.2824	1.7912 0.8041 0.2878 1.1994 4.0725	1.8240 0.8211 0.2985 1.0541 3.8643
0.25	1.6676 0.7286 0.0000 1.9253 5.0133	1.6705 0.7302 0.0564 1.9056 4.9907	1.6793 0.7351 0.1110 1.8478 4.9241	1.6937 0.7431 0.1619 1.7563 4.8166	1.7132 0.7539 0.2075 1.6375 4.6732	1.7373 0.7671 0.2461 1.4995 4.5010	1.7651 0.7823 0.2766 1.3510 4.3085	1.7960 0.7990 0.2977 1.2004 4.1055	1.8289 0.8165 0.3086 1.0553 3.9029
0.30	1.6715 0.7207 0.0000 1.9215 5.0062	1.6744 0.7225 0.0583 1.9019 4.9847	1.6833 0.7276 0.1146 1.8447 4.9213	1.6977 0.7359 0.1671 1.7539 4.8187	1.7174 0.7471 0.2141 1.6359 4.6817	1.7415 0.7609 0.2538 1.4988 4.5165	1.7695 0.7766 0.2851 1.3511 4.3310	1.8004 0.7938 0.3067 1.2011 4.1343	1.8333 0.8118 0.3179 1.0564 3.9366
0.35	1.6753 0.7129 0.0000 1.9170 4.9979	1.6783 0.7147 0.0600 1.8977 4.9774	1.6872 0.7200 0.1180 1.8409 4.9170	1.7017 0.7287 0.1720 1.7509 4.8192	1.7214 0.7404 0.2202 1.6339 4.6881	1.7456 0.7546 0.2610 1.4977 4.5295	1.7736 0.7710 0.2930 1.3508 4.3506	1.8045 0.7887 0.3151 1.2016 4.1599	1.8374 0.8072 0.3264 1.0573 3.9667
0.40	1.6792 0.7051 0.0000 1.9119 4.9883	1.6822 0.7070 0.0616 1.8927 4.9689	1.6911 0.7126 0.1212 1.8365 4.9114	1.7056 0.7215 0.1766 1.7474 4.8181	1.7253 0.7337 0.2260 1.6314 4.6927	1.7495 0.7484 0.2678 1.4963 4.5404	1.7775 0.7653 0.3005 1.3504 4.3679	1.8083 0.7835 0.3229 1.2018 4.1827	1.8411 0.8025 0.3343 1.0581 3.9937
0.45	1.6831 0.6974 0.0000 1.9062 4.9776	1.6861 0.6994 0.0632 1.8872 4.9592	1.6950 0.7051 0.1242 1.8316 4.9045	1.7095 0.7144 0.1810 1.7433 4.8155	1.7291 0.7270 0.2315 1.6284 4.6957	1.7533 0.7423 0.2742 1.4944 4.5496	1.7812 0.7597 0.3075 1.3496 4.3831	1.8119 0.7784 0.3302 1.2019 4.2033	1.8445 0.7978 0.3416 1.0587 4.0183
0.50	1.6871 0.6897 0.0000 1.8998 4.9657	1.6900 0.6917 0.0647 1.8810 4.9482	1.6989 0.6977 0.1271 1.8261 4.8953	1.7134 0.7074 0.1851 1.7387 4.8116	1.7329 0.7203 0.2368 1.6250 4.6972	1.7570 0.7361 0.2803 1.4922 4.5571	1.7847 0.7541 0.3141 1.3485 4.3966	1.8153 0.7734 0.3372 1.2017 4.2220	1.8478 0.7932 0.3486 1.0591 4.0407

$$M_{\infty} = 7, \beta_K = 25^\circ, \alpha = 10^\circ$$

st	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.55	1.6910 0.6821 0.0000 1.8928 4.9526	1.6940 0.6841 0.0661 1.8743 4.9360	1.7028 0.6903 0.1299 1.8200 4.8868	1.7172 0.7003 0.1891 1.7336 4.8064	1.7366 0.7137 0.2418 1.6211 4.6973	1.7606 0.7300 0.2860 1.4897 4.5631	1.7882 0.7485 0.3204 1.3471 4.4084	1.8186 0.7683 0.3437 1.2013 4.2390	1.8509 0.7887 0.3551 1.0594 4.0614
0.60	1.6950 0.6744 0.0000 1.8852 4.9384	1.6979 0.6766 0.0674 1.8669 4.9227	1.7067 0.6830 0.1325 1.8133 4.8761	1.7210 0.6933 0.1929 1.7280 4.7998	1.7403 0.7072 0.2466 1.6168 4.6960	1.7641 0.7240 0.2916 1.4867 4.5676	1.7915 0.7430 0.3264 1.3455 4.4187	1.8218 0.7634 0.3499 1.2007 4.2543	1.8538 0.7842 0.3612 1.0596 4.0803
0.65	1.6990 0.6668 0.0000 1.8769 4.9229	1.7019 0.6690 0.0688 1.8589 4.9081	1.7106 0.6756 0.1351 1.8060 4.8642	1.7248 0.6863 0.1966 1.7219 4.7920	1.7440 0.7006 0.2512 1.6121 4.6934	1.7676 0.7180 0.2969 1.4834 4.5708	1.7948 0.7375 0.3322 1.3435 4.4277	1.8248 0.7584 0.3559 1.1999 4.2682	1.8567 0.7798 0.3670 1.0594 4.0978
0.70	1.7030 0.6592 0.0000 1.8680 4.9062	1.7059 0.6615 0.0700 1.8503 4.8924	1.7145 0.6683 0.1375 1.7982 4.8510	1.7286 0.6793 0.2001 1.7152 4.7829	1.7476 0.6941 0.2556 1.6068 4.6895	1.7710 0.7120 0.3020 1.4797 4.5727	1.7980 0.7321 0.3377 1.3413 4.4352	1.8278 0.7536 0.3615 1.1989 4.2808	1.8594 0.7754 0.3726 1.0594 4.1139
0.75	1.7071 0.6516 0.0000 1.8585 4.8884	1.7100 0.6539 0.0712 1.8410 4.8754	1.7185 0.6610 0.1399 1.7897 4.8366	1.7324 0.6724 0.2036 1.7081 4.7726	1.7512 0.6876 0.2599 1.6012 4.6843	1.7744 0.7060 0.3069 1.4757 4.5733	1.8011 0.7267 0.3430 1.3387 4.4415	1.8307 0.7487 0.3670 1.1976 4.2921	1.8620 0.7711 0.3779 1.0591 4.1288
0.80	1.7112 0.6439 0.0000 1.8484 4.8693	1.7140 0.6464 0.0724 1.8312 4.8572	1.7225 0.6536 0.1422 1.7807 4.8210	1.7362 0.6654 0.2069 1.7003 4.7611	1.7548 0.6811 0.2640 1.5950 4.6779	1.7778 0.7000 0.3117 1.4712 4.5726	1.8042 0.7213 0.3482 1.3359 4.4466	1.8335 0.7439 0.3722 1.1962 4.3021	1.8645 0.7668 0.3829 1.0586 4.1424
0.85	1.7153 0.6363 0.0000 1.8376 4.8490	1.7181 0.6388 0.0736 1.8207 4.8378	1.7265 0.6463 0.1445 1.7711 4.8042	1.7401 0.6584 0.2101 1.6921 4.7483	1.7585 0.6746 0.2680 1.5884 4.6703	1.7811 0.6941 0.3163 1.4664 4.5707	1.8073 0.7160 0.3531 1.3328 4.4504	1.8362 0.7392 0.3772 1.1945 4.3110	1.8670 0.7626 0.3877 1.0580 4.1549
0.90	1.7195 0.6286 0.0000 1.8261 4.8274	1.7223 0.6312 0.0747 1.8096 4.8171	1.7305 0.6390 0.1466 1.7609 4.7860	1.7439 0.6514 0.2132 1.6833 4.7342	1.7621 0.6681 0.2719 1.5814 4.6613	1.7844 0.6882 0.3207 1.4612 4.5675	1.8103 0.7107 0.3578 1.3293 4.4531	1.8389 0.7345 0.3820 1.1926 4.3187	1.8694 0.7585 0.3923 1.0572 4.1663
0.95	1.7238 0.6209 0.0000 1.8140 4.8045	1.7265 0.6236 0.0758 1.7978 4.7951	1.7346 0.6316 0.1487 1.7501 4.7666	1.7478 0.6444 0.2162 1.6739 4.7188	1.7657 0.6616 0.2757 1.5738 4.6511	1.7877 0.6822 0.3250 1.4555 4.5631	1.8133 0.7054 0.3624 1.3256 4.4545	1.8416 0.7298 0.3866 1.1904 4.3254	1.8717 0.7544 0.3967 1.0562 4.1766
1.00	1.7281 0.6132 0.0000 1.8012 4.7803	1.7308 0.6159 0.0768 1.7853 4.7717	1.7387 0.6242 0.1508 1.7386 4.7458	1.7517 0.6374 0.2191 1.6639 4.7020	1.7694 0.6551 0.2793 1.5657 4.6396	1.7911 0.6763 0.3292 1.4495 4.5575	1.8163 0.7001 0.3669 1.3215 4.4548	1.8442 0.7252 0.3911 1.1880 4.3308	1.8740 0.7503 0.4010 1.0551 4.1860
F_x	0.5595	0.5596	0.5600	0.5606	0.5613	0.5622	0.5632	0.5642	0.5649

$$M_{\infty} = 7, \beta_{\kappa} = 25^{\circ}, \alpha = 10^{\circ}$$

ξ	θ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.00	1.7585 0.8200 0.2488 0.9145 2.9455	1.7787 0.8294 0.2401 0.7984 2.6733	1.7982 0.8385 0.2195 0.7021 2.4390	1.8158 0.8467 0.1867 0.6268 2.2491	1.8304 0.8535 0.1437 0.5718 2.1063	1.8409 0.8584 0.0962 0.5352 2.0091	1.8471 0.8613 0.0482 0.5146 1.9534	2.0062 0.9355 0.0000 0.5079 3.2329	1.8492 0.8623 0.0000 0.5079 1.9353
0.05	1.8342 0.8450 0.2584 0.9161 3.4666	1.8682 0.8642 0.2475 0.7998 3.2870	1.9020 0.8803 0.2258 0.7032 3.1579	1.9347 0.8957 0.1942 0.6275 3.0932	1.9642 0.9095 0.1542 0.5722 3.0970	1.9881 0.9207 0.1077 0.5353 3.1495	2.0034 0.9278 0.0558 0.5145 3.2076	2.0087 0.9302 0.0000 0.5078 3.2320	
0.10	1.8449 0.8459 0.2741 0.9177 3.5568	1.8790 0.8625 0.2634 0.8012 3.3839	1.9124 0.8786 0.2420 0.7043 3.2562	1.9439 0.8936 0.2104 0.6282 3.1841	1.9714 0.9066 0.1693 0.5725 3.1677	1.9929 0.9167 0.1196 0.5353 3.1892	2.0064 0.9231 0.0623 0.5142 3.2180	2.0110 0.9253 0.0000 0.5074 3.2303	
0.15	1.8522 0.8424 0.2872 0.9192 3.6199	1.8862 0.8593 0.2765 0.8025 3.4500	1.9193 0.8754 0.2550 0.7053 3.3209	1.9498 0.8901 0.2227 0.6288 3.2410	1.9762 0.9027 0.1802 0.5726 3.2093	1.9964 0.9124 0.1277 0.5351 3.2107	2.0090 0.9186 0.0665 0.5138 3.2223	2.0133 0.9207 0.0000 0.5068 3.2278	
0.20	1.8580 0.8385 0.2986 0.9207 3.6700	1.8919 0.8555 0.2878 0.8038 3.5015	1.9246 0.8717 0.2658 0.7062 3.3699	1.9545 0.8863 0.2327 0.6293 3.2824	1.9800 0.8986 0.1886 0.5727 3.2381	1.9994 0.9081 0.1337 0.5347 3.2244	2.0113 0.9142 0.0696 0.5131 3.2236	2.0154 0.9162 0.0000 0.5061 3.2244	
0.25	1.8629 0.8312 0.3088 0.9220 3.7120	1.8966 0.8516 0.2977 0.8049 3.5442	1.9290 0.8678 0.2751 0.7071 3.4095	1.9584 0.8823 0.2411 0.6297 3.3149	1.9832 0.8945 0.1954 0.5726 3.2595	2.0020 0.9039 0.1384 0.5342 3.2334	2.0135 0.9100 0.0720 0.5123 3.2230	2.0175 0.9120 0.0000 0.5052 3.2202	
0.30	1.8672 0.8300 0.3179 0.9232 3.7486	1.9008 0.8475 0.3065 0.8060 3.5808	1.9328 0.8638 0.2833 0.7078 3.4428	1.9618 0.8783 0.2482 0.6300 3.3413	1.9862 0.8904 0.2011 0.5726 3.2760	2.0045 0.8998 0.1423 0.5335 3.2394	2.0157 0.9058 0.0739 0.5113 3.2210	2.0195 0.9079 0.0000 0.5041 3.2153	
0.35	1.8711 0.8256 0.3263 0.9243 3.7810	1.9044 0.8434 0.3144 0.8070 3.6129	1.9362 0.8598 0.2905 0.7084 3.4715	1.9648 0.8743 0.2544 0.6301 3.3633	1.9888 0.8864 0.2059 0.5720 3.2890	2.0068 0.8958 0.1455 0.5327 3.2430	2.0177 0.9018 0.0755 0.5102 3.2179	2.0215 0.9039 0.0000 0.5029 3.2096	
0.40	1.8746 0.8213 0.3340 0.9252 3.8101	1.9078 0.8393 0.3217 0.8078 3.6415	1.9393 0.8558 0.2970 0.7090 3.4966	1.9676 0.8703 0.2599 0.6302 3.3819	1.9913 0.8825 0.2101 0.5716 3.2992	2.0090 0.8918 0.1483 0.5318 3.2449	2.0198 0.8979 0.0768 0.5089 3.2138	2.0234 0.9000 0.0000 0.5015 3.2034	
0.45	1.8779 0.8170 0.3411 0.9261 3.8366	1.9109 0.8353 0.3283 0.8086 3.6673	1.9421 0.8519 0.3029 0.7094 3.5188	1.9702 0.8665 0.2617 0.6302 3.3979	1.9937 0.8786 0.2137 0.5710 3.3072	2.0111 0.8880 0.1506 0.5307 3.2452	2.0217 0.8941 0.0780 0.5075 3.2087	2.0253 0.8962 0.0000 0.5000 3.1964	
0.50	1.8810 0.8128 0.3477 0.9268 3.8608	1.9138 0.8313 0.3344 0.8093 3.6907	1.9448 0.8481 0.3082 0.7098 3.5386	1.9727 0.8627 0.2690 0.6300 3.4116	1.9959 0.8748 0.2169 0.5702 3.3135	2.0132 0.8842 0.1526 0.5295 3.2443	2.0237 0.8903 0.0789 0.5060 3.2029	2.0273 0.8924 0.0000 0.4983 3.1889	

$$M_{\infty} = 7, \beta_{\kappa} = 25^{\circ}, \alpha = 10^{\circ}$$

ξ	θ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.55	1.8839 0.8087 0.3539 0.9274 3.8831	1.9165 0.8274 0.3400 0.8099 3.7120	1.9473 0.8443 0.3130 0.7101 3.5564	1.9750 0.8589 0.2729 0.6298 3.4234	1.9981 0.8711 0.2197 0.5694 3.3181	2.0152 0.8805 0.1544 0.5281 3.2423	2.0256 0.8866 0.0798 0.5043 3.1963	2.0292 0.8887 0.0000 0.4965 3.1807	
0.60	1.8866 0.8046 0.3597 0.9279 3.9036	1.9190 0.8236 0.3452 0.8104 3.7316	1.9497 0.8406 0.3174 0.7103 3.5724	1.9772 0.8553 0.2764 0.6294 3.4336	2.0001 0.8674 0.2222 0.5685 3.3214	2.0172 0.8768 0.1559 0.5267 3.2392	2.0276 0.8829 0.0805 0.5025 3.1889	2.0311 0.8850 0.0000 0.4946 3.1718	
0.65	1.8892 0.8005 0.3652 0.9283 3.9226	1.9214 0.8198 0.3501 0.8108 3.7496	1.9519 0.8370 0.3215 0.7104 3.5868	1.9793 0.8518 0.2795 0.6290 3.4424	2.0022 0.8639 0.2244 0.5674 3.3235	2.0191 0.8732 0.1573 0.5251 3.2352	2.0295 0.8793 0.0811 0.5006 3.1809	2.0330 0.8814 0.0000 0.4925 3.1623	
0.70	1.8917 0.7966 0.3703 0.9286 3.9402	1.9237 0.8162 0.3546 0.8112 3.7662	1.9541 0.8335 0.3253 0.7104 3.5999	1.9814 0.8483 0.2824 0.6285 3.4499	2.0041 0.8604 0.2263 0.5663 3.3245	2.0211 0.8697 0.1584 0.5234 3.2304	2.0314 0.8757 0.0816 0.4985 3.1721	2.0349 0.8778 0.0000 0.4903 3.1522	
0.75	1.8941 0.7927 0.3752 0.9288 3.9565	1.9259 0.8126 0.3588 0.8114 3.7816	1.9561 0.8301 0.3287 0.7104 3.6118	1.9833 0.8449 0.2850 0.6279 3.4563	2.0061 0.8569 0.2281 0.5650 3.3245	2.0230 0.8661 0.1594 0.5215 3.2247	2.0333 0.8721 0.0821 0.4962 3.1626	2.0368 0.8741 0.0000 0.4879 3.1413	
0.80	1.8964 0.7888 0.3798 0.9289 3.9717	1.9280 0.8091 0.3628 0.8116 3.7958	1.9581 0.8267 0.3319 0.7103 3.6226	1.9852 0.8416 0.2873 0.6272 3.4616	2.0079 0.8535 0.2296 0.5636 3.3236	2.0249 0.8626 0.1603 0.5195 3.2182	2.0352 0.8685 0.0825 0.4939 3.1523	2.0387 0.8705 0.0000 0.4854 3.1298	
0.85	1.8986 0.7851 0.3842 0.9288 3.9857	1.9300 0.8056 0.3665 0.8117 3.8090	1.9600 0.8235 0.3348 0.7101 3.6324	1.9871 0.8383 0.2894 0.6264 3.4660	2.0098 0.8502 0.2310 0.5622 3.3218	2.0268 0.8592 0.1611 0.5174 3.2108	2.0372 0.8649 0.0828 0.4914 3.1413	2.0407 0.8669 0.0000 0.4828 3.1175	
0.90	1.9008 0.7814 0.3884 0.9287 3.9987	1.9320 0.8022 0.3700 0.8117 3.8212	1.9618 0.8202 0.3376 0.7098 3.6412	1.9889 0.8351 0.2914 0.6256 3.4696	2.0116 0.8469 0.2322 0.5606 3.3192	2.0287 0.8557 0.1617 0.5152 3.2027	2.0392 0.8613 0.0831 0.4887 3.1295	2.0427 0.8633 0.0000 0.4799 3.1045	
0.95	1.9028 0.7778 0.3923 0.9284 4.0108	1.9339 0.7989 0.3734 0.8117 3.8324	1.9636 0.8171 0.3401 0.7095 3.6492	1.9907 0.8320 0.2931 0.6246 3.4723	2.0135 0.8436 0.2333 0.5589 3.3159	2.0306 0.8522 0.1623 0.5128 3.1939	2.0411 0.8577 0.0833 0.4858 3.1170	2.0447 0.8596 0.0000 0.4769 3.0906	
1.00	1.9049 0.7742 0.3961 0.9281 4.0219	1.9357 0.7957 0.3765 0.8115 3.8429	1.9653 0.8141 0.3425 0.7091 3.6564	1.9924 0.8289 0.2947 0.6236 3.4743	2.0153 0.8404 0.2342 0.5571 3.3118	2.0325 0.8488 0.1628 0.5103 3.1842	2.0432 0.8541 0.0835 0.4828 3.1035	2.0468 0.8559 0.0000 0.4738 3.0758	
F_x	0.5654	0.5654	0.5647	0.5633	0.5613	0.5593	0.5577	0.5571	

$$M_{\infty} = 7, \beta_{\kappa} = 25^{\circ}, \alpha = 15^{\circ}$$

ξ	θ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.00	1.5202	1.5226	1.5299	1.5419	1.5585	1.5794	1.6042	1.6323	1.6633
	0.7089	0.7100	0.7134	0.7190	0.7267	0.7365	0.7480	0.7612	0.7756
	0.0000	0.0648	0.1283	0.1890	0.2455	0.2965	0.3406	0.3763	0.4021
	2.3822	2.3477	2.2474	2.0901	1.8896	1.6620	1.4242	1.1917	0.9768
0.05	5.2329	5.1786	5.0196	4.7661	4.4348	4.0464	3.6239	3.1906	2.7682
	1.5244	1.5280	1.5387	1.5562	1.5802	1.6100	1.6448	1.6840	1.7266
	0.6998	0.7015	0.7067	0.7153	0.7269	0.7414	0.7584	0.7774	0.7981
	0.0000	0.0693	0.1367	0.2004	0.2585	0.3094	0.3514	0.3830	0.4028
0.10	2.3818	2.3475	2.2477	2.0914	1.8918	1.6652	1.4282	1.1962	0.9815
	5.2322	5.1870	5.0540	4.8408	4.5596	4.2261	3.8587	3.4769	3.1000
	1.5287	1.5325	1.5440	1.5627	1.5882	1.6198	1.6567	1.6979	1.7426
	0.6907	0.6927	0.6985	0.7080	0.7209	0.7370	0.7557	0.7766	0.7991
0.15	0.0000	0.0728	0.1435	0.2100	0.2703	0.3226	0.3651	0.3964	0.4151
	2.3804	2.3464	2.2473	2.0920	1.8937	1.6682	1.4321	1.2007	0.9862
	5.2301	5.1879	5.0635	4.8638	4.5994	4.2847	3.9361	3.5721	3.2111
	1.5330	1.5370	1.5489	1.5683	1.5947	1.6274	1.6655	1.7079	1.7537
0.20	0.6817	0.6838	0.6901	0.7004	0.7144	0.7317	0.7518	0.7742	0.7980
	0.0000	0.0759	0.1495	0.2185	0.2808	0.3345	0.3778	0.4092	0.4274
	2.3782	2.3445	2.2462	2.0920	1.8950	1.6709	1.4359	1.2052	0.9910
	5.2267	5.1869	5.0695	4.8807	4.6300	4.3304	3.9971	3.6473	3.2986
0.25	1.5373	1.5414	1.5536	1.5735	1.6005	1.6339	1.6727	1.7158	1.7622
	0.6728	0.6750	0.6818	0.6928	0.7077	0.7262	0.7475	0.7711	0.7962
	0.0000	0.0787	0.1550	0.2264	0.2906	0.3457	0.3897	0.4214	0.4393
	2.3752	2.3417	2.2443	2.0914	1.8959	1.6732	1.4396	1.2097	0.9959
0.30	5.2219	5.1842	5.0731	4.8940	4.6555	4.3693	4.0497	3.7124	3.3745
	1.5417	1.5459	1.5582	1.5784	1.6059	1.6397	1.6790	1.7225	1.7693
	0.6639	0.6663	0.6734	0.6851	0.7009	0.7204	0.7429	0.7677	0.7939
	0.0000	0.0814	0.1602	0.2338	0.2998	0.3562	0.4011	0.4330	0.4507
0.35	2.3713	2.3382	2.2417	2.0902	1.8963	1.6753	1.4430	1.2142	1.0009
	5.2157	5.1801	5.0748	4.9047	4.6775	4.4039	4.0970	3.7713	3.4431
	1.5461	1.5503	1.5628	1.5832	1.6109	1.6450	1.6845	1.7283	1.7752
	0.6550	0.6576	0.6651	0.6774	0.6941	0.7146	0.7383	0.7641	0.7913
0.40	0.0000	0.0839	0.1651	0.2408	0.3086	0.3662	0.4119	0.4441	0.4617
	2.3666	2.3338	2.2383	2.0884	1.8963	1.6771	1.4464	1.2186	1.0059
	5.2083	5.1746	5.0748	4.9132	4.6969	4.4353	4.1405	3.8259	3.5069
	1.5505	1.5547	1.5673	1.5878	1.6157	1.6499	1.6896	1.7335	1.7804
0.45	0.6462	0.6489	0.6568	0.6698	0.6873	0.7088	0.7335	0.7605	0.7887
	0.0000	0.0863	0.1698	0.2475	0.3170	0.3759	0.4223	0.4547	0.4722
	2.3610	2.3286	2.2342	2.0859	1.8958	1.6785	1.4495	1.2231	1.0111
	5.1996	5.1677	5.0732	4.9199	4.7141	4.4642	4.1811	3.8774	3.5671
0.50	1.5549	1.5591	1.5718	1.5923	1.6202	1.6545	1.6942	1.7381	1.7849
	0.6374	0.6402	0.6486	0.6622	0.6805	0.7030	0.7288	0.7568	0.7860
	0.0000	0.0887	0.1743	0.2540	0.3251	0.3851	0.4323	0.4650	0.4823
	2.3546	2.3226	2.2295	2.0829	1.8949	1.6797	1.4525	1.2275	1.0163
0.55	5.1895	5.1594	5.0701	4.9250	4.7294	4.4910	4.2195	3.9263	3.6246
	1.5593	1.5636	1.5762	1.5968	1.6247	1.6589	1.6985	1.7423	1.7889
	0.6287	0.6316	0.6404	0.6546	0.6738	0.6972	0.7240	0.7532	0.7833
	0.0000	0.0909	0.1787	0.2603	0.3329	0.3941	0.4420	0.4749	0.4920
0.60	2.3474	2.3159	2.2240	2.0793	1.8934	1.6806	1.4554	1.2319	1.0216
	5.1782	5.1498	5.0657	4.9285	4.7431	4.5160	4.2560	3.9733	3.6800
	1.5638	1.5680	1.5806	1.6012	1.6290	1.6631	1.7025	1.7461	1.7925
	0.6200	0.6231	0.6322	0.6470	0.6670	0.6914	0.7193	0.7495	0.7807
0.65	0.0000	0.0931	0.1829	0.2663	0.3405	0.4028	0.4513	0.4845	0.5014
	2.3394	2.3084	2.2178	2.0750	1.8916	1.6811	1.4581	1.2363	1.0270
	5.1656	5.1390	5.0599	4.9306	4.7552	4.5394	4.2908	4.0186	3.7337

$$M_{\infty} = 7, \beta_k = 25^\circ, \alpha = 15^\circ.$$

ξ	θ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.55	1.5683 0.6113 0.0000 2.3307 5.1518	1.5725 0.6145 0.0952 2.3001 5.1268	1.5851 0.6240 0.1870 2.2108 5.0527	1.6055 0.6395 0.1870 2.0702 4.9313	1.6331 0.6603 0.3478 1.8893 4.7659	1.6671 0.6857 0.4112 1.6813 4.5614	1.7063 0.7147 0.4604 1.4607 4.3243	1.7496 0.7459 0.4938 1.2406 4.0626	1.7957 0.7780 0.5105 1.0325 3.7861
0.60	1.5728 0.6027 0.0000 2.3211 5.1366	1.5770 0.6060 0.0973 2.2910 5.1134	1.5895 0.6159 0.1911 2.2032 5.0442	1.6098 0.6320 0.2780 2.0648 4.9307	1.6372 0.6536 0.3550 1.8865 4.7753	1.6709 0.6800 0.4195 1.6813 4.5821	1.7099 0.7100 0.4693 1.4631 4.3565	1.7528 0.7423 0.5029 1.2450 4.1054	1.7985 0.7755 0.5193 1.0381 3.8373
0.65	1.5774 0.5940 0.0000 2.3107 5.1202	1.5815 0.5975 0.0993 2.2812 5.0987	1.5939 0.6078 0.1950 2.1949 5.0345	1.6140 0.6245 0.2836 2.0588 4.9287	1.6413 0.6470 0.3620 1.8832 4.7833	1.6747 0.6743 0.4275 1.6809 4.6015	1.7132 0.7054 0.4779 1.4654 4.3875	1.7558 0.7388 0.5117 1.2494 4.1471	1.8011 0.7730 0.5278 1.0439 3.8875
0.70	1.5820 0.5853 0.0000 2.2995 5.1025	1.5861 0.5890 0.1013 2.2705 5.0826	1.5984 0.5996 0.1988 2.1859 5.0234	1.6183 0.6170 0.2891 2.0522 4.9254	1.6452 0.6403 0.3689 1.8795 4.7901	1.6783 0.6687 0.4353 1.6802 4.6197	1.7164 0.7009 0.4863 1.4675 4.4175	1.7585 0.7354 0.5202 1.2537 4.1880	1.8034 0.7706 0.5360 1.0497 3.9370
0.75	1.5867 0.5767 0.0000 2.2875 5.0835	1.5907 0.5804 0.1032 2.2591 5.0653	1.6028 0.5915 0.2026 2.1761 5.0110	1.6225 0.6095 0.2944 2.0449 4.9208	1.6491 0.6337 0.3755 1.8753 4.7956	1.6818 0.6631 0.4430 1.6792 4.6367	1.7195 0.6964 0.4946 1.4694 4.4464	1.7611 0.7320 0.5286 1.2580 4.2280	1.8054 0.7682 0.5440 1.0556 3.9859
0.80	1.5914 0.5680 0.0000 2.2747 5.0631	1.5954 0.5719 0.1051 2.2469 5.0466	1.6073 0.5834 0.2062 2.1656 4.9972	1.6267 0.6020 0.2997 2.0371 4.9149	1.6530 0.6271 0.3821 1.8706 4.7999	1.6852 0.6575 0.4505 1.6779 4.6526	1.7224 0.6919 0.5026 1.4712 4.4744	1.7635 0.7287 0.5367 1.2624 4.2672	1.8073 0.7659 0.5518 1.0617 4.0341
0.85	1.5961 0.5593 0.0000 2.2611 5.0414	1.6001 0.5633 0.1069 2.2339 5.0266	1.6118 0.5752 0.2098 2.1544 4.9821	1.6309 0.5946 0.3049 2.0286 4.9077	1.6568 0.6205 0.3885 1.8654 4.8029	1.6885 0.6519 0.4579 1.6762 4.6674	1.7252 0.6875 0.5105 1.4728 4.5015	1.7657 0.7254 0.5447 1.2667 4.3058	1.8089 0.7638 0.5594 1.0679 4.0819
0.90	1.6010 0.5506 0.0000 2.2466 5.0183	1.6049 0.5547 0.1087 2.2201 5.0052	1.6164 0.5671 0.2134 2.1424 4.9657	1.6352 0.5870 0.3099 2.0194 4.8991	1.6606 0.6139 0.3949 1.8597 4.8046	1.6918 0.6464 0.4651 1.6742 4.6811	1.7279 0.6831 0.5182 1.4742 4.5277	1.7677 0.7222 0.5524 1.2709 4.3437	1.8104 0.7617 0.5668 1.0742 4.1293
0.95	1.6059 0.5418 0.0000 2.2312 4.9938	1.6097 0.5461 0.1105 2.2054 4.9824	1.6210 0.5588 0.2168 2.1297 4.9478	1.6394 0.5795 0.3149 2.0096 4.8892	1.6644 0.6073 0.4011 1.8535 4.8051	1.6950 0.6408 0.4722 1.6718 4.6937	1.7304 0.6787 0.5258 1.4754 4.5530	1.7697 0.7190 0.5601 1.2752 4.3810	1.8117 0.7597 0.5740 1.0806 4.1764
1.00	1.6109 0.5329 0.0000 2.2150 4.9678	1.6146 0.5374 0.1122 2.1898 4.9581	1.6257 0.5506 0.2202 2.1161 4.9284	1.6437 0.5720 0.3198 1.9991 4.8778	1.6681 0.6006 0.4072 1.8467 4.8042	1.6982 0.6353 0.4792 1.6690 4.7051	1.7329 0.6744 0.5332 1.4764 4.5774	1.7715 0.7159 0.5675 1.2794 4.4178	1.8128 0.7577 0.5810 1.0871 4.2232
F_x	0.5656	0.5658	0.5667	0.5680	0.5699	0.5724	0.5752	0.5785	0.5820

$$M_{\infty} = 7, \beta_{\kappa} = 25^{\circ}, \alpha = 15^{\circ}$$

ξ	θ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.00	1.6963 0.7910 0.4163 0.7884 2.3752	1.7305 0.8069 0.4169 0.6312 2.0264	1.7647 0.8229 0.4009 0.5068 1.7324	1.7976 0.8382 0.3631 0.4149 1.5016	1.8267 0.8518 0.2993 0.3538 1.3402	1.8509 0.8631 0.1817 0.3203 1.2483	1.8620 0.8683 0.0755 0.3062 1.2087	2.0541 0.9579 0.0000 0.3025 2.4535	1.8646 0.8695 0.0000 0.3025 1.1983
0.05	1.7717 0.8199 0.4093 0.7928 2.7471	1.8183 0.8423 0.4011 0.6351 2.4350	1.8657 0.8650 0.3760 0.5099 2.1815	1.9131 0.8875 0.3319 0.4171 2.0087	1.9591 0.9096 0.2622 0.3552 1.9354	2.0068 0.9315 0.1772 0.3208 2.0677	2.0436 0.9476 0.0932 0.3062 2.3292	2.0565 0.9530 0.0000 0.3024 2.4536	
0.10	1.7896 0.8225 0.4200 0.7973 2.8714	1.8379 0.8463 0.4098 0.6391 2.5707	1.8866 0.8693 0.3834 0.5132 2.3277	1.9341 0.8927 0.3387 0.4194 2.1633	1.9793 0.9141 0.2733 0.3565 2.1069	2.0206 0.9325 0.1950 0.3213 2.2092	2.0490 0.9448 0.1057 0.3062 2.3787	2.0584 0.9488 0.0000 0.3021 2.4520	
0.15	1.8016 0.8227 0.4314 0.8020 2.9688	1.8506 0.8474 0.4202 0.6432 2.6757	1.8995 0.8714 0.3931 0.5165 2.4374	1.9467 0.8939 0.3483 0.4218 2.2748	1.9903 0.9143 0.2853 0.3579 2.2156	2.0279 0.9307 0.2079 0.3219 2.2864	2.0522 0.9415 0.1130 0.3061 2.4026	2.0601 0.9453 0.0000 0.3018 2.4499	
0.20	1.8107 0.8218 0.4427 0.8068 3.0527	1.8600 0.8472 0.4307 0.6475 2.7649	1.9088 0.8714 0.4030 0.5200 2.5286	1.9553 0.8936 0.3581 0.4243 2.3637	1.9977 0.9129 0.2959 0.3593 2.2951	2.0328 0.9280 0.2174 0.3224 2.3374	2.0547 0.9383 0.1178 0.3059 2.4165	2.0617 0.9420 0.0000 0.3013 2.4474	
0.25	1.8179 0.8204 0.4536 0.8118 3.1285	1.8673 0.8464 0.4409 0.6520 2.8446	1.9158 0.8707 0.4124 0.5237 2.6083	1.9619 0.8925 0.3671 0.4269 2.4387	2.0032 0.9109 0.3049 0.3608 2.3577	2.0365 0.9252 0.2247 0.3228 2.3745	2.0568 0.9353 0.1213 0.3057 2.4252	2.0632 0.9390 0.0000 0.3008 2.4443	
0.30	1.8239 0.8187 0.4640 0.8169 3.1986	1.8732 0.8452 0.4506 0.6567 2.9177	1.9215 0.8696 0.4214 0.5275 2.6803	1.9670 0.8910 0.3755 0.4297 2.5042	2.0074 0.9086 0.3126 0.3624 2.4095	2.0395 0.9223 0.2303 0.3233 2.4029	2.0586 0.9323 0.1238 0.3054 2.4306	2.0646 0.9362 0.0000 0.3002 2.4409	
0.35	1.8290 0.8169 0.4740 0.8221 3.2648	1.8781 0.8439 0.4599 0.6615 2.9862	1.9260 0.8684 0.4297 0.5315 2.7466	1.9711 0.8893 0.3830 0.4325 2.5628	2.0109 0.9062 0.3191 0.3640 2.4536	2.0419 0.9194 0.2348 0.3237 2.4254	2.0602 0.9295 0.1257 0.3050 2.4338	2.0659 0.9335 0.0000 0.2996 2.4371	
0.40	1.8334 0.8150 0.4836 0.8276 3.3279	1.8822 0.8425 0.4687 0.6666 3.0511	1.9298 0.8670 0.4375 0.5357 2.8086	1.9745 0.8877 0.3897 0.4355 2.6163	2.0138 0.9039 0.3247 0.3656 2.4922	2.0441 0.9167 0.2383 0.3241 2.4439	2.0617 0.9268 0.1271 0.3045 2.4355	2.0672 0.9310 0.0000 0.2989 2.4329	
0.45	1.8372 0.8131 0.4928 0.8331 3.3887	1.8857 0.8411 0.4770 0.6718 3.1133	1.9330 0.8657 0.4448 0.5401 2.8673	1.9773 0.8860 0.3958 0.4386 2.6658	2.0162 0.9016 0.3294 0.3673 2.5267	2.0460 0.9141 0.2411 0.3244 2.4592	2.0632 0.9243 0.1281 0.3040 2.4359	2.0685 0.9284 0.0000 0.2981 2.4284	
0.50	1.8404 0.8112 0.5016 0.8389 3.4477	1.8887 0.8397 0.4849 0.6772 3.1731	1.9356 0.8645 0.4515 0.5447 2.9234	1.9797 0.8845 0.4013 0.4419 2.7123	2.0183 0.8995 0.3334 0.3690 2.5579	2.0477 0.9116 0.2434 0.3247 2.4722	2.0646 0.9218 0.1289 0.3034 2.4353	2.0698 0.9260 0.0000 0.2972 2.4234	

$$M_{\infty} = 7, \beta_{\kappa} = 25^{\circ}, \alpha = 15^{\circ}$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.55	1.8433	1.8912	1.9378	1.9816	2.0200	2.0492	2.0659	2.0710	
	0.8094	0.8384	0.8633	0.8830	0.8976	0.9092	0.9193	0.9236	
	0.5100	0.4924	0.4578	0.4062	0.3368	0.2451	0.1295	0.0000	
	0.8448	0.6828	0.5494	0.4453	0.3708	0.3250	0.3028	0.2963	
0.60	3.5052	3.2317	2.9775	2.7564	2.5867	2.4834	2.4339	2.4180	
	1.8458	1.8933	1.9396	1.9832	2.0215	2.0507	2.0672	2.0723	
	0.8077	0.8372	0.8623	0.8818	0.8958	0.9070	0.9169	0.9212	
	0.5181	0.4995	0.4636	0.4106	0.3396	0.2465	0.1299	0.0000	
0.65	0.8509	0.6887	0.5544	0.4489	0.3727	0.3253	0.3021	0.2953	
	3.5615	3.2887	3.0300	2.7986	2.6135	2.4931	2.4318	2.4123	
	1.8479	1.8951	1.9411	1.9846	2.0228	2.0519	2.0685	2.0736	
	0.8060	0.8361	0.8614	0.8807	0.8942	0.9049	0.9146	0.9188	
0.70	0.5259	0.5062	0.4690	0.4145	0.3421	0.2475	0.1301	0.0000	
	0.8572	0.6948	0.5596	0.4526	0.3747	0.3256	0.3013	0.2942	
	3.6169	3.3447	3.0812	2.8394	2.6389	2.5017	2.4291	2.4060	
	1.8498	1.8965	1.9423	1.9856	2.0239	2.0531	2.0698	2.0749	
0.75	0.8045	0.8351	0.8607	0.8798	0.8928	0.9029	0.9123	0.9164	
	0.5335	0.5126	0.4740	0.4180	0.3441	0.2483	0.1302	0.0000	
	0.8637	0.7011	0.5650	0.4566	0.3767	0.3259	0.3005	0.2931	
	3.6716	3.3999	3.1316	2.8791	2.6631	2.5094	2.4257	2.3993	
0.80	1.8514	1.8977	1.9432	1.9864	2.0248	2.0543	2.0710	2.0762	
	0.8030	0.8343	0.8601	0.8791	0.8915	0.9010	0.9100	0.9140	
	0.5407	0.5187	0.4787	0.4212	0.3457	0.2487	0.1302	0.0000	
	0.8704	0.7077	0.5707	0.4607	0.3789	0.3262	0.2996	0.2919	
0.85	3.7257	3.4546	3.1812	2.9180	2.6866	2.5164	2.4218	2.3921	
	1.8527	1.8986	1.9438	1.9870	2.0255	2.0553	2.0723	2.0775	
	0.8011	0.8336	0.8597	0.8786	0.8905	0.8993	0.9077	0.9115	
	0.5477	0.5246	0.4831	0.4240	0.3471	0.2490	0.1301	0.0000	
0.90	0.8773	0.7145	0.5766	0.4651	0.3812	0.3265	0.2987	0.2905	
	3.7793	3.5088	3.2304	2.9565	2.7095	2.5229	2.4173	2.3843	
	1.8538	1.8993	1.9443	1.9873	2.0261	2.0562	2.0736	2.0789	
	0.8004	0.8330	0.8595	0.8783	0.8897	0.8977	0.9054	0.9090	
0.95	0.5545	0.5301	0.4872	0.4266	0.3481	0.2490	0.1299	0.0000	
	0.8844	0.7216	0.5828	0.4697	0.3837	0.3268	0.2976	0.2891	
	3.8327	3.5628	3.2794	2.9947	2.7322	2.5289	2.4122	2.3759	
	1.8547	1.8998	1.9445	1.9875	2.0265	2.0571	2.0749	2.0803	
1.00	0.7993	0.8326	0.8595	0.8782	0.8891	0.8962	0.9032	0.9065	
	0.5610	0.5355	0.4911	0.4288	0.3489	0.2489	0.1297	0.0000	
	0.8917	0.7290	0.5893	0.4745	0.3863	0.3272	0.2965	0.2875	
	3.8858	3.6166	3.3283	3.0329	2.7549	2.5348	2.4066	2.3668	
F_x	1.8555	1.9001	1.9445	1.9875	2.0268	2.0579	2.0762	2.0818	
	0.7982	0.8323	0.8596	0.8784	0.8887	0.8948	0.9009	0.9039	
	0.5674	0.5406	0.4947	0.4308	0.3495	0.2486	0.1293	0.0000	
	0.8993	0.7366	0.5961	0.4796	0.3891	0.3276	0.2953	0.2859	
F_x	3.9389	3.6705	3.3772	3.0712	2.7776	2.5405	2.4005	2.3569	
	1.8560	1.9002	1.9443	1.9872	2.0269	2.0587	2.0775	2.0834	
	0.7973	0.8322	0.8600	0.8787	0.8885	0.8935	0.8985	0.9011	
	0.5735	0.5454	0.4980	0.4326	0.3499	0.2482	0.1289	0.0000	
F_x	0.9071	0.7445	0.6032	0.4849	0.3921	0.3281	0.2941	0.2840	
	3.9919	3.7245	3.4265	3.1098	2.8007	2.5462	2.3937	2.3460	
	0.5854	0.5884	0.5903	0.5902	0.5874	0.5816	0.5758	0.5734	

$$M_{\infty} = 7, \beta_{\kappa} = 30^{\circ}, \alpha = 5^{\circ}$$

ξ	θ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.00	1.5662	1.5670	1.5694	1.5734	1.5787	1.5853	1.5929	1.6013	1.6102
	0.9043	0.9047	0.9061	0.9084	0.9115	0.9153	0.9197	0.9245	0.9296
	0.0000	0.0202	0.0398	0.0579	0.0741	0.0875	0.0977	0.1043	0.1068
	1.9609	1.9514	1.9234	1.8786	1.8194	1.7490	1.6711	1.5894	1.5075
	5.0293	5.0118	4.9604	4.8776	4.7673	4.6348	4.4863	4.3285	4.1681
0.05	1.5705	1.5723	1.5774	1.5857	1.5971	1.6112	1.6276	1.6458	1.6652
	0.8968	0.8978	0.9008	0.9057	0.9124	0.9207	0.9303	0.9410	0.9524
	0.0000	0.0234	0.0460	0.0669	0.0854	0.1007	0.1123	0.1197	0.1225
	1.9605	1.9511	1.9232	1.8784	1.8193	1.7490	1.6712	1.5895	1.5077
	5.0286	5.0186	4.9892	4.9422	4.8807	4.8087	4.7309	4.6525	4.5787
0.10	1.5749	1.5767	1.5819	1.5905	1.6021	1.6165	1.6332	1.6515	1.6710
	0.8894	0.8904	0.8936	0.8988	0.9058	0.9144	0.9244	0.9354	0.9470
	0.0000	0.0254	0.0499	0.0727	0.0928	0.1096	0.1225	0.1308	0.1342
	1.9595	1.9500	1.9222	1.8776	1.8186	1.7484	1.6707	1.5891	1.5074
	5.0267	5.0173	4.9899	4.9461	4.8887	4.8212	4.7478	4.6733	4.6023
0.15	1.5792	1.5810	1.5863	1.5950	1.6068	1.6213	1.6381	1.6565	1.6760
	0.8820	0.8832	0.8864	0.8918	0.8990	0.9079	0.9181	0.9294	0.9412
	0.0000	0.0270	0.0531	0.0773	0.0987	0.1167	0.1304	0.1394	0.1432
	1.9577	1.9483	1.9206	1.8761	1.8173	1.7473	1.6698	1.5883	1.5067
	5.0235	5.0146	4.9887	4.9471	4.8925	4.8281	4.7578	4.6859	4.6166
0.20	1.5836	1.5854	1.5907	1.5995	1.6113	1.6259	1.6427	1.6611	1.6806
	0.8748	0.8759	0.8793	0.8848	0.8922	0.9013	0.9118	0.9233	0.9354
	0.0000	0.0284	0.0557	0.0811	0.1037	0.1226	0.1370	0.1465	0.1506
	1.9553	1.9459	1.9183	1.8740	1.8154	1.7457	1.6683	1.5870	1.5055
	5.0191	5.0106	4.9858	4.9461	4.8938	4.8319	4.7640	4.6941	4.6262
0.25	1.5879	1.5897	1.5951	1.6038	1.6157	1.6303	1.6471	1.6655	1.6849
	0.8676	0.8688	0.8723	0.8779	0.8855	0.8948	0.9055	0.9172	0.9295
	0.0000	0.0296	0.0581	0.0846	0.1081	0.1277	0.1428	0.1528	0.1571
	1.9523	1.9429	1.9154	1.8713	1.8130	1.7435	1.6663	1.5853	1.5039
	5.0134	5.0054	4.9816	4.9435	4.8931	4.8334	4.7676	4.6994	4.6326
0.30	1.5922	1.5940	1.5994	1.6082	1.6200	1.6346	1.6514	1.6698	1.6891
	0.8606	0.8618	0.8653	0.8711	0.8789	0.8884	0.8993	0.9112	0.9236
	0.0000	0.0306	0.0602	0.0876	0.1120	0.1324	0.1480	0.1583	0.1628
	1.9486	1.9393	1.9119	1.8680	1.8099	1.7407	1.6639	1.5831	1.5019
	5.0067	4.9989	4.9761	4.9394	4.8909	4.8331	4.7691	4.7025	4.6366
0.35	1.5965	1.5983	1.6037	1.6125	1.6243	1.6389	1.6556	1.6739	1.6931
	0.8536	0.8548	0.8584	0.8643	0.8722	0.8820	0.8931	0.9052	0.9178
	0.0000	0.0316	0.0621	0.0904	0.1156	0.1366	0.1527	0.1633	0.1679
	1.9443	1.9350	1.9078	1.8642	1.8064	1.7375	1.6610	1.5804	1.4994
	4.9988	4.9913	4.9694	4.9340	4.8871	4.8311	4.7689	4.7036	4.6386
0.40	1.6008	1.6026	1.6080	1.6167	1.6286	1.6430	1.6597	1.6779	1.6971
	0.8466	0.8479	0.8516	0.8577	0.8657	0.8756	0.8869	0.8992	0.9121
	0.0000	0.0325	0.0639	0.0930	0.1188	0.1404	0.1570	0.1679	0.1726
	1.9394	1.9302	1.9032	1.8598	1.8023	1.7338	1.6576	1.5774	1.4966
	4.9898	4.9826	4.9615	4.9274	4.8821	4.8277	4.7671	4.7031	4.6389
0.45	1.6051	1.6069	1.6123	1.6210	1.6328	1.6472	1.6638	1.6819	1.7009
	0.8397	0.8410	0.8448	0.8509	0.8592	0.8693	0.8808	0.8933	0.9064
	0.0000	0.0334	0.0655	0.0954	0.1219	0.1440	0.1610	0.1721	0.1769
	1.9339	1.9248	1.8979	1.8548	1.7977	1.7296	1.6538	1.5739	1.4934
	4.9797	4.9728	4.9524	4.9196	4.8757	4.8230	4.7639	4.7011	4.6377
0.50	1.6094	1.6112	1.6165	1.6252	1.6369	1.6513	1.6678	1.6858	1.7047
	0.8329	0.8342	0.8381	0.8444	0.8528	0.8631	0.8748	0.8875	0.9007
	0.0000	0.0341	0.0671	0.0976	0.1247	0.1474	0.1647	0.1760	0.1808
	1.9278	1.9188	1.8921	1.8493	1.7926	1.7249	1.6495	1.5700	1.4898
	4.9685	4.9619	4.9423	4.9106	4.8682	4.8170	4.7593	4.6977	4.6350

$$M_{\infty} = 7, \beta_k = 30^\circ, \alpha = 5^\circ$$

ξ	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.55	1.6137 0.8262 0.0000 1.9212 4.9563	1.6155 0.8275 0.0049 1.9222 4.9599	1.6208 0.8314 0.0685 1.8858 4.9310	1.6294 0.8378 0.0998 1.8433 4.9005	1.6411 0.8464 0.1274 1.7870 4.8595	1.6554 0.8569 0.1505 1.7197 4.8098	1.6718 0.8688 0.1681 1.6448 4.7535	1.6897 0.8817 0.1797 1.5656 4.6931	1.7085 0.8951 0.1845 1.4858 4.6311
0.60	1.6180 0.8194 0.0000 1.9140 4.9430	1.6198 0.8108 0.0056 1.9151 4.9469	1.6251 0.8248 0.0699 1.8789 4.9187	1.6337 0.8313 0.1017 1.8368 4.8893	1.6452 0.8401 0.1299 1.7809 4.8496	1.6594 0.8507 0.1534 1.7141 4.8014	1.6757 0.8628 0.1714 1.6396 4.7466	1.6936 0.8759 0.1831 1.5609 4.6873	1.7122 0.8895 0.1880 1.4814 4.6260
0.65	1.6224 0.8128 0.0000 1.9062 4.9287	1.6241 0.8141 0.0063 1.8074 4.9228	1.6294 0.8182 0.0712 1.8714 4.9053	1.6379 0.8249 0.1036 1.8297 4.8770	1.6494 0.8338 0.1323 1.7743 4.8387	1.6635 0.8446 0.1562 1.7080 4.7919	1.6797 0.8569 0.1744 1.6340 4.7384	1.6974 0.8702 0.1863 1.5558 4.6803	1.7159 0.8840 0.1912 1.4767 4.6197
0.70	1.6267 0.8061 0.0000 1.8979 4.9133	1.6285 0.8075 0.0069 1.8992 4.9177	1.6337 0.8117 0.0725 1.8635 4.8909	1.6421 0.8184 0.1054 1.8221 4.8636	1.6535 0.8275 0.1346 1.7672 4.8267	1.6675 0.8385 0.1588 1.7014 4.7814	1.6836 0.8510 0.1773 1.6280 4.7292	1.7012 0.8645 0.1893 1.5503 4.6721	1.7196 0.8786 0.1942 1.4716 4.6122
0.75	1.6311 0.7995 0.0000 1.8890 4.8969	1.6328 0.8009 0.0075 1.8804 4.8915	1.6380 0.8052 0.0736 1.8550 4.8754	1.6464 0.8120 0.1071 1.8140 4.8492	1.6577 0.8213 0.1367 1.7596 4.8136	1.6716 0.8325 0.1613 1.6944 4.7697	1.6875 0.8452 0.1801 1.6216 4.7189	1.7050 0.8589 0.1921 1.5444 4.6629	1.7233 0.8731 0.1971 1.4661 4.6037
0.80	1.6355 0.7929 0.0000 1.8796 4.8794	1.6372 0.7943 0.0381 1.8711 4.8743	1.6423 0.7986 0.0748 1.8459 4.8589	1.6506 0.8056 0.1087 1.8054 4.8337	1.6619 0.8150 0.1387 1.7515 4.7994	1.6756 0.8264 0.1637 1.6870 4.7569	1.6915 0.8394 0.1827 1.6147 4.7074	1.7088 0.8533 0.1949 1.5380 4.6526	1.7269 0.8677 0.1998 1.4602 4.5941
0.85	1.6399 0.7863 0.0000 1.8696 4.8609	1.6416 0.7880 0.0386 1.8612 4.8560	1.6467 0.7922 0.0758 1.8363 4.8413	1.6549 0.7993 0.1103 1.7962 4.8172	1.6661 0.8088 0.1407 1.7430 4.7842	1.6797 0.8204 0.1660 1.6790 4.7431	1.6954 0.8336 0.1851 1.6074 4.6949	1.7125 0.8477 0.1974 1.5313 4.6412	1.7306 0.8623 0.2023 1.4540 4.5834
0.90	1.6444 0.7797 0.0000 1.8591 4.8413	1.6461 0.7812 0.0391 1.8507 4.8366	1.6511 0.7857 0.0769 1.8262 4.8226	1.6592 0.7929 0.1118 1.7866 4.7995	1.6703 0.8026 0.1426 1.7339 4.7678	1.6838 0.8144 0.1681 1.6706 4.7281	1.6993 0.8278 0.1875 1.5997 4.6814	1.7163 0.8421 0.1999 1.5242 4.6287	1.7342 0.8569 0.2047 1.4474 4.5717
0.95	1.6489 0.7731 0.0000 1.8480 4.8206	1.6506 0.7746 0.0397 1.8397 4.8161	1.6555 0.7792 0.0778 1.8155 4.8028	1.6636 0.7866 0.1132 1.7764 4.7808	1.6745 0.7964 0.1443 1.7243 4.7504	1.6879 0.8084 0.1702 1.6617 4.7121	1.7033 0.8220 0.1897 1.5915 4.6667	1.7201 0.8366 0.2022 1.5167 4.6152	1.7379 0.8516 0.2070 1.4405 4.5590
1.00	1.6535 0.7665 0.0000 1.8362 4.7988	1.6551 0.7680 0.0401 1.8281 4.7945	1.6600 0.7727 0.0788 1.8042 4.7819	1.6680 0.7802 0.1145 1.7656 4.7609	1.6788 0.7902 0.1461 1.7142 4.7318	1.6920 0.8024 0.1722 1.6523 4.6950	1.7073 0.8162 0.1919 1.5828 4.6509	1.7240 0.8310 0.2044 1.5087 4.6006	1.7416 0.8462 0.2092 1.4331 4.5451
F_x	0.6919	0.6918	0.6917	0.6915	0.6913	0.6909	0.6904	0.6897	0.6888

$$M_{\infty} = 7, \beta_{\kappa} = 30^{\circ}, \alpha = 5^{\circ}$$

ξ	θ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.00	1.6192 0.9348 0.1051 1.4290 4.0118	1.6279 0.9399 0.0991 1.3565 3.8654	1.6361 0.9446 0.0892 1.2924 3.7341	1.6434 0.9488 0.0757 1.2384 3.6220	1.6493 0.9522 0.0593 1.1957 3.5322	1.6537 0.9548 0.0408 1.1648 3.4668	1.6565 0.9564 0.0208 1.1462 3.4271	1.7716 1.0228 0.0000 1.1399 4.3957	1.6574 0.9569 0.0000 1.1399 3.4138
0.05	1.6852 0.9642 0.1207 1.4291 4.5141	1.7050 0.9758 0.1141 1.3566 4.4625	1.7238 0.9868 0.1031 1.2925 4.4258	1.7408 0.9967 0.0880 1.2384 4.4040	1.7551 1.0051 0.0694 1.1956 4.3943	1.7660 1.0115 0.0479 1.1646 4.3926	1.7728 1.0154 0.0245 1.1460 4.3941	1.7751 1.0168 0.0000 1.1397 4.3951	
0.10	1.6910 0.9589 0.1325 1.4288 4.5389	1.7106 0.9706 0.1258 1.3563 4.4865	1.7291 0.9816 0.1141 1.2921 4.4465	1.7456 0.9914 0.0977 1.2380 4.4201	1.7594 0.9996 0.0773 1.1950 4.4043	1.7698 1.0058 0.0536 1.1640 4.3967	1.7763 1.0096 0.0274 1.1453 4.3939	1.7785 1.0109 0.0000 1.1390 4.3932	
0.15	1.6959 0.9533 0.1416 1.4281 4.5539	1.7153 0.9651 0.1346 1.3556 4.5007	1.7335 0.9761 0.1222 1.2913 4.4589	1.7498 0.9859 0.1049 1.2371 4.4287	1.7633 0.9941 0.0831 1.1941 4.4090	1.7734 1.0002 0.0576 1.1630 4.3976	1.7797 1.0040 0.0295 1.1443 4.3920	1.7819 1.0052 0.0000 1.1380 4.3903	
0.20	1.7003 0.9476 0.1491 1.4270 4.5639	1.7196 0.9595 0.1418 1.3545 4.5100	1.7377 0.9706 0.1288 1.2902 4.4664	1.7537 0.9804 0.1106 1.2359 4.4336	1.7669 0.9886 0.0877 1.1928 4.4108	1.7769 0.9947 0.0608 1.1617 4.3964	1.7830 0.9985 0.0311 1.1429 4.3888	1.7851 0.9997 0.0000 1.1365 4.3863	
0.25	1.7046 0.9419 0.1555 1.4255 4.5706	1.7237 0.9539 0.1479 1.3530 4.5160	1.7416 0.9651 0.1345 1.2887 4.4709	1.7574 0.9750 0.1155 1.2343 4.4358	1.7705 0.9832 0.0915 1.1912 4.4105	1.7803 0.9893 0.0635 1.1599 4.3938	1.7863 0.9931 0.0325 1.1411 4.3844	1.7884 0.9944 0.0000 1.1347 4.3814	
0.30	1.7086 0.9362 0.1611 1.4236 4.5748	1.7276 0.9483 0.1533 1.3511 4.5197	1.7453 0.9596 0.1393 1.2868 4.4731	1.7610 0.9696 0.1196 1.2324 4.4361	1.7739 0.9778 0.0948 1.1892 4.4085	1.7836 0.9840 0.0657 1.1579 4.3898	1.7895 0.9878 0.0337 1.1390 4.3790	1.7916 0.9891 0.0000 1.1326 4.3755	
0.35	1.7125 0.9305 0.1662 1.4213 4.5770	1.7314 0.9428 0.1581 1.3489 4.5212	1.7490 0.9542 0.1437 1.2846 4.4735	1.7645 0.9643 0.1233 1.2301 4.4347	1.7773 0.9726 0.0977 1.1868 4.4052	1.7868 0.9788 0.0677 1.1555 4.3847	1.7927 0.9827 0.0347 1.1365 4.3727	1.7947 0.9839 0.0000 1.1301 4.3687	
0.40	1.7164 0.9249 0.1708 1.4186 4.5774	1.7351 0.9374 0.1624 1.3463 4.5212	1.7525 0.9489 0.1476 1.2820 4.4723	1.7679 0.9591 0.1266 1.2275 4.4319	1.7806 0.9674 0.1003 1.1842 4.4006	1.7900 0.9737 0.0695 1.1527 4.3785	1.7959 0.9776 0.0356 1.1337 4.3654	1.7978 0.9789 0.0000 1.1274 4.3610	
0.45	1.7201 0.9194 0.1750 1.4156 4.5763	1.7387 0.9320 0.1664 1.3434 4.5197	1.7560 0.9436 0.1511 1.2791 4.4697	1.7713 0.9539 0.1296 1.2246 4.4278	1.7838 0.9624 0.1026 1.1812 4.3949	1.7932 0.9687 0.0711 1.1497 4.3714	1.7990 0.9726 0.0364 1.1307 4.3572	1.8009 0.9739 0.0000 1.1243 4.3525	
0.50	1.7238 0.9139 0.1789 1.4122 4.5739	1.7423 0.9267 0.1700 1.3401 4.5168	1.7595 0.9384 0.1543 1.2759 4.4658	1.7746 0.9488 0.1323 1.2214 4.4226	1.7870 0.9573 0.1047 1.1779 4.3882	1.7963 0.9637 0.0725 1.1464 4.3633	1.8021 0.9677 0.0371 1.1273 4.3482	1.8040 0.9690 0.0000 1.1209 4.3431	

$$M_{\infty} = 7, \beta_K = 30^\circ, \alpha = 5^\circ$$

ξ	θ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.55	1.7275 0.9085 0.1824 1.4084 4.5701	1.7458 0.9214 0.1733 1.3365 4.5126	1.7629 0.9333 0.1573 1.2723 4.4607	1.7779 0.9438 0.1348 1.2178 4.4162	1.7902 0.9524 0.1066 1.1744 4.3804	1.7995 0.9588 0.0738 1.1428 4.3542	1.8052 0.9628 0.0378 1.1236 4.3383	1.8071 0.9641 0.0000 1.1172 4.3329	
0.60	1.7311 0.9031 0.1858 1.4043 4.5652	1.7493 0.9162 0.1764 1.3325 4.5073	1.7662 0.9282 0.1600 1.2685 4.4545	1.7811 0.9388 0.1371 1.2140 4.4088	1.7934 0.9475 0.1084 1.1705 4.3717	1.8026 0.9540 0.0750 1.1389 4.3444	1.8082 0.9580 0.0384 1.1197 4.3276	1.8101 0.9593 0.0000 1.1132 4.3219	
0.65	1.7346 0.8978 0.1889 1.3999 4.5590	1.7527 0.9110 0.1793 1.3283 4.5008	1.7696 0.9232 0.1625 1.2643 4.4473	1.7844 0.9338 0.1392 1.2098 4.4004	1.7966 0.9426 0.1100 1.1663 4.3621	1.8057 0.9492 0.0761 1.1347 4.3336	1.8113 0.9532 0.0389 1.1155 4.3161	1.8132 0.9546 0.0000 1.1090 4.3102	
0.70	1.7382 0.8925 0.1918 1.3951 4.5518	1.7562 0.9059 0.1819 1.3237 4.4933	1.7729 0.9182 0.1649 1.2598 4.4390	1.7876 0.9290 0.1412 1.2054 4.3911	1.7997 0.9378 0.1115 1.1619 4.3515	1.8088 0.9444 0.0772 1.1302 4.3220	1.8144 0.9485 0.0395 1.1109 4.3038	1.8163 0.9498 0.0000 1.1045 4.2976	
0.75	1.7417 0.8872 0.1945 1.3899 4.5435	1.7596 0.9008 0.1844 1.3188 4.4847	1.7762 0.9132 0.1671 1.2550 4.4297	1.7908 0.9241 0.1430 1.2007 4.3807	1.8029 0.9330 0.1129 1.1571 4.3401	1.8119 0.9397 0.0781 1.1254 4.3096	1.8174 0.9438 0.0399 1.1061 4.2907	1.8193 0.9452 0.0000 1.0997 4.2842	
0.80	1.7452 0.8820 0.1971 1.3845 4.5342	1.7630 0.8957 0.1868 1.3136 4.4751	1.7795 0.9083 0.1691 1.2500 4.4194	1.7940 0.9193 0.1447 1.1956 4.3695	1.8060 0.9283 0.1142 1.1521 4.3278	1.8150 0.9350 0.0790 1.1203 4.2963	1.8205 0.9391 0.0404 1.1011 4.2767	1.8224 0.9405 0.0000 1.0946 4.2700	
0.85	1.7487 0.8768 0.1995 1.3786 4.5238	1.7664 0.8907 0.1890 1.3080 4.4645	1.7828 0.9034 0.1711 1.2446 4.4081	1.7973 0.9145 0.1463 1.1903 4.3573	1.8092 0.9235 0.1154 1.1468 4.3145	1.8181 0.9303 0.0798 1.1150 4.2822	1.8236 0.9345 0.0408 1.0957 4.2619	1.8255 0.9359 0.0000 1.0892 4.2551	
0.90	1.7523 0.8716 0.2018 1.3725 4.5124	1.7698 0.8856 0.1911 1.3021 4.4529	1.7861 0.8985 0.1729 1.2388 4.3959	1.8005 0.9097 0.1477 1.1847 4.3442	1.8124 0.9188 0.1166 1.1411 4.3004	1.8212 0.9256 0.0805 1.1094 4.2672	1.8267 0.9298 0.0412 1.0900 4.2463	1.8286 0.9312 0.0000 1.0835 4.2392	
0.95	1.7558 0.8665 0.2040 1.3659 4.4999	1.7732 0.8806 0.1931 1.2959 4.4403	1.7894 0.8936 0.1746 1.2328 4.3827	1.8037 0.9049 0.1491 1.1787 4.3301	1.8156 0.9141 0.1176 1.1352 4.2854	1.8244 0.9209 0.0812 1.1034 4.2513	1.8298 0.9252 0.0415 1.0841 4.2299	1.8317 0.9266 0.0000 1.0776 4.2225	
1.00	1.7593 0.8613 0.2060 1.3590 4.4864	1.7766 0.8756 0.1949 1.2893 4.4266	1.7928 0.8887 0.1762 1.2264 4.3685	1.8070 0.9001 0.1504 1.1725 4.3151	1.8188 0.9094 0.1186 1.1290 4.2695	1.8276 0.9163 0.0819 1.0972 4.2345	1.8330 0.9205 0.0418 1.0778 4.2125	1.8349 0.9219 0.0000 1.0713 4.2050	
F_x	0.6878	0.6867	0.6854	0.6842	0.6831	0.6822	0.6816	0.6814	

$$M_{\infty} = 7, \beta_K = 30^\circ, \alpha = 10^\circ$$

ξ	θ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.00	1.4413 0.8321 0.0000 2.4136 5.2304	1.4430 0.8331 0.0417 2.3917 5.1965	1.4482 0.8361 0.0823 2.3278 5.0970	1.4566 0.8410 0.0823 2.2264 4.9373	1.4682 0.8477 0.1550 2.0943 4.7263	1.4826 0.8560 0.1848 1.9403 4.4754	1.4996 0.8658 0.2086 1.7738 4.1976	1.5186 0.8768 0.2253 1.6042 3.9067	1.5391 0.8886 0.2337 1.4397 3.6163
0.05	1.4461 0.8238 0.0000 2.4131 5.2297	1.4492 0.8256 0.0464 2.3914 5.2053	1.4583 0.8310 0.0912 2.3277 5.1334	1.4732 0.8398 0.1331 2.2266 5.0183	1.4937 0.8519 0.1705 2.0950 4.8667	1.5191 0.8669 0.2020 1.9414 4.6877	1.5488 0.8845 0.2265 1.7752 4.4921	1.5823 0.9043 0.2428 1.6057 4.2922	1.6187 0.9257 0.2500 1.4413 4.1012
0.10	1.4510 0.8155 0.0000 2.4118 5.2277	1.4542 0.8175 0.0496 2.3902 5.2051	1.4638 0.8233 0.0976 2.3268 5.1387	1.4795 0.8328 0.1424 2.2261 5.0322	1.5009 0.8458 0.1823 2.0950 4.8917	1.5274 0.8619 0.2160 1.9419 4.7256	1.5584 0.8806 0.2423 1.7762 4.5437	1.5930 0.9014 0.2599 1.6070 4.3573	1.6303 0.9238 0.2681 1.4427 4.1788
0.15	1.4559 0.8073 0.0000 2.4097 5.2244	1.4592 0.8093 0.0523 2.3882 5.2032	1.4691 0.8155 0.1029 2.3251 5.1408	1.4852 0.8255 0.1501 2.2250 5.0408	1.5071 0.8392 0.1921 2.0945 4.9086	1.5342 0.8560 0.2277 1.9420 4.7520	1.5658 0.8755 0.2554 1.7768 4.5799	1.6010 0.8971 0.2742 1.6080 4.4031	1.6386 0.9202 0.2832 1.4438 4.2329
0.20	1.4608 0.7991 0.0000 2.4067 5.2197	1.4642 0.8013 0.0547 2.3853 5.1998	1.4742 0.8077 0.1076 2.3227 5.1409	1.4906 0.8182 0.1568 2.2232 5.0463	1.5128 0.8324 0.2008 2.0934 4.9211	1.5403 0.8498 0.2379 1.9416 4.7724	1.5722 0.8700 0.2669 1.7770 4.6085	1.6077 0.8923 0.2866 1.6087 4.4394	1.6455 0.9159 0.2963 1.4448 4.2755
0.25	1.4657 0.7910 0.0000 2.4029 5.2138	1.4691 0.7933 0.0569 2.3817 5.1949	1.4792 0.7999 0.1118 2.3195 5.1392	1.4958 0.8108 0.1630 2.2206 5.0495	1.5182 0.8255 0.2086 2.0916 4.9306	1.5459 0.8436 0.2472 1.9407 4.7889	1.5781 0.8644 0.2773 1.7769 4.6322	1.6136 0.8872 0.2978 1.6090 4.4696	1.6515 0.9113 0.3079 1.4455 4.3112
0.30	1.4706 0.7830 0.0000 2.3983 5.2067	1.4740 0.7853 0.0588 2.3772 5.1888	1.4842 0.7922 0.1157 2.3156 5.1359	1.5008 0.8034 0.1686 2.2174 5.0508	1.5234 0.8186 0.2158 2.0893 4.9376	1.5512 0.8372 0.2557 1.9393 4.8024	1.5835 0.8586 0.2868 1.7763 4.6522	1.6191 0.8820 0.3080 1.6091 4.4956	1.6569 0.9065 0.3185 1.4460 4.3418
0.35	1.4755 0.7750 0.0000 2.3929 5.1983	1.4790 0.7774 0.0607 2.3720 5.1814	1.4892 0.7845 0.1193 2.3109 5.1312	1.5058 0.7961 0.1739 2.2136 5.0504	1.5285 0.8117 0.2225 2.0804 4.9426	1.5563 0.8309 0.2635 1.9374 4.8134	1.5886 0.8528 0.2956 1.7753 4.6694	1.6241 0.8766 0.3174 1.6089 4.5183	1.6619 0.9017 0.3281 1.4462 4.3687
0.40	1.4804 0.7671 0.0000 2.3867 5.1888	1.4839 0.7696 0.0624 2.3661 5.1727	1.4941 0.7769 0.1227 2.3055 5.1252	1.5108 0.7888 0.1788 2.2091 5.0484	1.5334 0.8049 0.2288 2.0830 4.9459	1.5613 0.8245 0.2709 1.9351 4.8225	1.5934 0.8469 0.3038 1.7740 4.6842	1.6289 0.8713 0.3261 1.6083 4.5383	1.6666 0.8967 0.3371 1.4462 4.3926
0.45	1.4854 0.7593 0.0000 2.3798 5.1780	1.4888 0.7618 0.0641 2.3594 5.1628	1.4990 0.7694 0.1259 2.2994 5.1178	1.5157 0.7816 0.1835 2.2039 5.0450	1.5383 0.7981 0.2347 2.0790 4.9475	1.5660 0.8182 0.2779 1.9322 4.8297	1.5981 0.8411 0.3115 1.7722 4.6970	1.6335 0.8660 0.3343 1.6074 4.5560	1.6710 0.8918 0.3454 1.4459 4.4139
0.50	1.4903 0.7515 0.0000 2.3721 5.1661	1.4937 0.7541 0.0656 2.3519 5.1517	1.5039 0.7619 0.1290 2.2926 5.1092	1.5205 0.7744 0.1879 2.1981 5.0403	1.5430 0.7913 0.2403 2.0744 4.9476	1.5707 0.8119 0.2845 1.9289 4.8352	1.6027 0.8353 0.3187 1.7701 4.7079	1.6379 0.8606 0.3420 1.6063 4.5716	1.6752 0.8869 0.3532 1.4454 4.4330

$$M_{\infty} = 7, \beta_{\kappa} = 30^{\circ}, \alpha = 10^{\circ}$$

ξ	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.55	1.4953 0.7438 0.0000 2.3637 5.1530	1.4987 0.7464 0.0671 2.3438 5.1395	1.5088 0.7544 0.1319 2.2852 5.0994	1.5253 0.7673 0.1921 2.1917 5.0342	1.5477 0.7846 0.2457 2.0693 4.9464	1.5753 0.8056 0.2907 1.9251 4.8392	1.6071 0.8295 0.3256 1.7676 4.7172	1.6421 0.8553 0.3492 1.6048 4.5855	1.6792 0.8820 0.3606 1.4446 4.4503
0.60	1.5003 0.7361 0.0000 2.3546 5.1388	1.5037 0.7388 0.0686 2.3349 5.1261	1.5137 0.7470 0.1347 2.2770 5.0884	1.5301 0.7601 0.1962 2.1847 5.0269	1.5524 0.7778 0.2508 2.0636 4.9437	1.5798 0.7994 0.2967 1.9209 4.8418	1.6114 0.8238 0.3322 1.7647 4.7250	1.6462 0.8501 0.3561 1.6030 4.5978	1.6830 0.8772 0.3675 1.4436 4.4657
0.65	1.5053 0.7284 0.0000 2.3447 5.1234	1.5086 0.7312 0.0699 2.3253 5.1115	1.5186 0.7396 0.1374 2.2682 5.0761	1.5349 0.7531 0.2001 2.1770 5.0183	1.5570 0.7712 0.2557 2.0573 4.9398	1.5842 0.7931 0.3024 1.9162 4.8430	1.6156 0.8180 0.3385 1.7614 4.7313	1.6501 0.8448 0.3626 1.6009 4.6086	1.6867 0.8724 0.3740 1.4424 4.4797
0.70	1.5103 0.7208 0.0000 2.3341 5.1069	1.5137 0.7237 0.0713 2.3150 5.0958	1.5236 0.7322 0.1400 2.2587 5.0627	1.5397 0.7460 0.2038 2.1687 5.0085	1.5616 0.7645 0.2604 2.0506 4.9346	1.5886 0.7870 0.3078 1.9110 4.8429	1.6197 0.8124 0.3444 1.7577 4.7362	1.6540 0.8396 0.3689 1.5985 4.6179	1.6903 0.8676 0.3802 1.4409 4.4921
0.75	1.5154 0.7132 0.0000 2.3228 5.0892	1.5187 0.7161 0.0725 2.3040 5.0789	1.5285 0.7248 0.1425 2.2485 5.0481	1.5445 0.7390 0.2074 2.1598 4.9975	1.5662 0.7579 0.2650 2.0432 4.9281	1.5929 0.7808 0.3131 1.9054 4.8415	1.6237 0.8067 0.3502 1.7537 4.7399	1.6578 0.8345 0.3748 1.5959 4.6259	1.6938 0.8629 0.3861 1.4392 4.5032
0.80	1.5205 0.7056 0.0000 2.3108 5.0704	1.5238 0.7086 0.0738 2.2922 5.0608	1.5335 0.7175 0.1449 2.2377 5.0323	1.5493 0.7320 0.2109 2.1503 4.9853	1.5708 0.7513 0.2693 2.0354 4.9204	1.5972 0.7747 0.3182 1.8993 4.8389	1.6277 0.8011 0.3557 1.7492 4.7422	1.6615 0.8294 0.3805 1.5929 4.6327	1.6972 0.8583 0.3917 1.4373 4.5131
0.85	1.5257 0.6980 0.0000 2.2981 5.0503	1.5289 0.7011 0.0750 2.2798 5.0416	1.5385 0.7102 0.1472 2.2261 5.0153	1.5541 0.7249 0.2142 2.1402 4.9719	1.5753 0.7447 0.2735 2.0269 4.9115	1.6015 0.7686 0.3230 1.8927 4.8350	1.6317 0.7955 0.3610 1.7444 4.7434	1.6651 0.8243 0.3860 1.5896 4.6382	1.7006 0.8536 0.3971 1.4351 4.5217
0.90	1.5309 0.6904 0.0000 2.2846 5.0291	1.5341 0.6935 0.0761 2.2666 5.0211	1.5435 0.7029 0.1495 2.2139 4.9972	1.5590 0.7179 0.2175 2.1294 4.9572	1.5799 0.7381 0.2776 2.0179 4.9014	1.6057 0.7625 0.3277 1.8856 4.8299	1.6356 0.7899 0.3661 1.7392 4.7433	1.6687 0.8192 0.3912 1.5860 4.6425	1.7038 0.8490 0.4022 1.4327 4.5291
0.95	1.5361 0.6828 0.0000 2.2703 5.0067	1.5393 0.6860 0.0772 2.2527 4.9995	1.5486 0.6955 0.1517 2.2010 4.9778	1.5638 0.7109 0.2206 2.1180 4.9413	1.5845 0.7315 0.2815 2.0084 4.8900	1.6100 0.7564 0.3323 1.8780 4.8236	1.6395 0.7844 0.3710 1.7336 4.7420	1.6722 0.8142 0.3962 1.5820 4.6456	1.7070 0.8445 0.4071 1.4301 4.5354
1.00	1.5414 0.6751 0.0000 2.2553 4.9831	1.5445 0.6784 0.0783 2.2381 4.9766	1.5537 0.6882 0.1538 2.1873 4.9571	1.5687 0.7039 0.2237 2.1059 4.9242	1.5891 0.7249 0.2854 1.9982 4.8774	1.6142 0.7503 0.3367 1.8700 4.8160	1.6434 0.7788 0.3757 1.7276 4.7395	1.6757 0.8032 0.4011 1.5778 4.6476	1.7102 0.8400 0.4118 1.4272 4.5406
F_x	0.7002	0.7003	0.7004	0.7006	0.7008	0.7009	0.7008	0.7005	0.6997

$$M_{\infty} = 7, \beta_{\kappa} = 30^{\circ}, \alpha = 10^{\circ}$$

ξ	θ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.00	1.5604 0.9009 0.2326 1.2876 3.3390	1.5817 0.9132 0.2212 1.1531 3.0859	1.6018 0.9248 0.1989 1.0397 2.8660	1.6198 0.9352 0.1668 0.9491 2.6853	1.6344 0.9436 0.1278 0.8812 2.5467	1.6449 0.9497 0.0860 0.8347 2.4500	1.6512 0.9533 0.0432 0.8078 2.3932	1.8508 1.0686 0.0000 0.7990 3.9035	1.6533 0.9546 0.0000 0.7990 2.3745
0.05	1.6571 0.9483 0.2474 1.2890 3.9333	1.6964 0.9714 0.2348 1.1542 3.8029	1.7356 0.9943 0.2124 1.0405 3.7239	1.7728 1.0160 0.1814 0.9496 3.7055	1.8058 1.0352 0.1435 0.8815 3.7440	1.8318 1.0503 0.0999 0.8348 3.8139	1.8483 1.0599 0.0515 0.8077 3.8780	1.8540 1.0630 0.0000 0.7988 3.9029	
0.10	1.6692 0.9471 0.2663 1.2903 4.0210	1.7085 0.9705 0.2542 1.1554 3.8967	1.7469 0.9932 0.2321 1.0413 3.8174	1.7825 1.0142 0.2006 0.9501 3.7890	1.8134 1.0323 0.1605 0.8816 3.8058	1.8371 1.0462 0.1127 0.8345 3.8470	1.8519 1.0550 0.0584 0.8073 3.8859	1.8570 1.0579 0.0000 0.7983 3.9012	
0.15	1.6777 0.9440 0.2819 1.2915 4.0812	1.7168 0.9676 0.2699 1.1564 3.9597	1.7546 0.9902 0.2475 1.0420 3.8781	1.7892 1.0108 0.2149 0.9503 3.8410	1.8187 1.0284 0.1728 0.8814 3.8424	1.8412 1.0418 0.1216 0.8341 3.8652	1.8551 1.0502 0.0630 0.8066 3.8887	1.8599 1.0530 0.0000 0.7975 3.8983	
0.20	1.6846 0.9401 0.2952 1.2925 4.1282	1.7235 0.9639 0.2832 1.1572 4.0079	1.7607 0.9865 0.2602 1.0425 3.9236	1.7946 1.0069 0.2265 0.9504 3.8786	1.8232 1.0242 0.1824 0.8811 3.8677	1.8448 1.0373 0.1284 0.8334 3.8767	1.8581 1.0456 0.0665 0.8056 3.8891	1.8627 1.0483 0.0000 0.7964 3.8946	
0.25	1.6905 0.9358 0.3070 1.2933 4.1671	1.7291 0.9599 0.2948 1.1578 4.0474	1.7660 0.9825 0.2712 1.0428 3.9599	1.7992 1.0028 0.2363 0.9503 3.9078	1.8271 1.0199 0.1903 0.8806 3.8863	1.8481 1.0329 0.1339 0.8324 3.8840	1.8609 1.0411 0.0693 0.8044 3.8878	1.8653 1.0438 0.0000 0.7951 3.8900	
0.30	1.6958 0.9314 0.3176 1.2939 4.2005	1.7342 0.9556 0.3051 1.1583 4.0807	1.7706 0.9783 0.2808 1.0430 3.9900	1.8034 0.9986 0.2447 0.9501 3.9312	1.8307 1.0156 0.1969 0.8798 3.9005	1.8512 1.0286 0.1385 0.8313 3.8886	1.8637 1.0367 0.0716 0.8030 3.8851	1.8680 1.0395 0.0000 0.7936 3.8847	
0.35	1.7006 0.9268 0.3272 1.2943 4.2296	1.7388 0.9513 0.3144 1.1586 4.1096	1.7748 0.9741 0.2893 1.0430 4.0156	1.8072 0.9944 0.2520 0.9496 3.9504	1.8340 1.0114 0.2027 0.8789 3.9113	1.8541 1.0243 0.1424 0.8300 3.8910	1.8664 1.0325 0.0736 0.8014 3.8814	1.8706 1.0353 0.0000 0.7919 3.8786	
0.40	1.7051 0.9223 0.3361 1.2945 4.2554	1.7430 0.9469 0.3228 1.1587 4.1349	1.7787 0.9698 0.2969 1.0428 4.0375	1.8107 0.9902 0.2585 0.9490 3.9664	1.8372 1.0072 0.2078 0.8778 3.9196	1.8569 1.0202 0.1458 0.8284 3.8916	1.8690 1.0284 0.0753 0.7995 3.8767	1.8731 1.0311 0.0000 0.7900 3.8719	
0.45	1.7093 0.9177 0.3443 1.2945 4.2785	1.7469 0.9426 0.3305 1.1587 4.1573	1.7824 0.9656 0.3039 1.0425 4.0566	1.8140 0.9860 0.2643 0.9482 3.9797	1.8402 1.0031 0.2122 0.8755 3.9257	1.8597 1.0161 0.1487 0.8267 3.8908	1.8716 1.0243 0.0767 0.7975 3.8710	1.8756 1.0271 0.0000 0.7879 3.8645	
0.50	1.7132 0.9131 0.3519 1.2943 4.2992	1.7506 0.9382 0.3376 1.1585 4.1773	1.7858 0.9614 0.3102 1.0420 4.0732	1.8172 0.9819 0.2696 0.9472 3.9907	1.8431 0.9990 0.2162 0.8750 3.9300	1.8624 1.0121 0.1514 0.8248 3.8888	1.8741 1.0203 0.0780 0.7953 3.8645	1.8781 1.0231 0.0000 0.7856 3.8564	

$$M_{\infty} = 7, \beta_{\kappa} = 30^{\circ}, \alpha = 10^{\circ}$$

τ	θ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.55	1.7170 0.9086 0.3590 1.2939 4.3179	1.7542 0.9340 0.3442 1.1581 4.1951	1.7891 0.9573 0.3160 1.0413 4.0878	1.8202 0.9779 0.2743 0.9461 3.9999	1.8459 0.9950 0.2197 0.8734 3.9328	1.8650 1.0081 0.1537 0.8227 3.8856	1.8766 1.0164 0.0792 0.7929 3.8572	1.8806 1.0192 0.0000 0.7831 3.8476	
0.60	1.7206 0.9041 0.3657 1.2933 4.3348	1.7575 0.9297 0.3503 1.1575 4.2111	1.7923 0.9532 0.3213 1.0405 4.1005	1.8232 0.9739 0.2787 0.9448 4.0074	1.8487 0.9911 0.2230 0.8716 3.9342	1.8676 1.0042 0.1558 0.8204 3.8814	1.8791 1.0125 0.0802 0.7903 3.8492	1.8830 1.0153 0.0000 0.7804 3.8382	
0.65	1.7241 0.8996 0.3719 1.2925 4.3500	1.7608 0.9255 0.3560 1.1568 4.2254	1.7953 0.9492 0.3262 1.0396 4.1116	1.8260 0.9699 0.2826 0.9434 4.0134	1.8513 0.9872 0.2259 0.8696 3.9343	1.8701 1.0004 0.1577 0.8180 3.8762	1.8816 1.0087 0.0811 0.7876 3.8404	1.8855 1.0115 0.0000 0.7775 3.8281	
0.70	1.7274 0.8952 0.3778 1.2916 4.3637	1.7639 0.9214 0.3614 1.1560 4.2382	1.7982 0.9452 0.3308 1.0385 4.1212	1.8287 0.9661 0.2863 0.9418 4.0181	1.8539 0.9834 0.2285 0.8675 3.9334	1.8726 0.9966 0.1593 0.8153 3.8701	1.8840 1.0049 0.0819 0.7847 3.8309	1.8879 1.0078 0.0000 0.7745 3.8174	
0.75	1.7307 0.8909 0.3834 1.2904 4.3761	1.7669 0.9173 0.3664 1.1550 4.2496	1.8010 0.9413 0.3350 1.0372 4.1295	1.8314 0.9623 0.2896 0.9401 4.0216	1.8565 0.9797 0.2309 0.8652 3.9314	1.8751 0.9929 0.1609 0.8126 3.8632	1.8865 1.0012 0.0826 0.7815 3.8206	1.8904 1.0040 0.0000 0.7712 3.8060	
0.80	1.7338 0.8866 0.3887 1.2891 4.3872	1.7698 0.9133 0.3711 1.1538 4.2598	1.8038 0.9375 0.3390 1.0358 4.1366	1.8340 0.9585 0.2927 0.9382 4.0240	1.8590 0.9760 0.2331 0.8627 3.9284	1.8776 0.9892 0.1622 0.8096 3.8554	1.8890 0.9975 0.0833 0.7782 3.8097	1.8928 1.0003 0.0000 0.7678 3.7940	
0.85	1.7369 0.8824 0.3937 1.2876 4.3971	1.7727 0.9093 0.3755 1.1525 4.2688	1.8064 0.9337 0.3427 1.0343 4.1425	1.8366 0.9549 0.2955 0.9362 4.0253	1.8615 0.9723 0.2351 0.8601 3.9245	1.8801 0.9855 0.1635 0.8065 3.8469	1.8914 0.9938 0.0839 0.7747 3.7980	1.8953 0.9966 0.0000 0.7642 3.7812	
0.90	1.7398 0.8782 0.3984 1.2859 4.4058	1.7754 0.9054 0.3797 1.1510 4.2767	1.8090 0.9300 0.3461 1.0326 4.1475	1.8391 0.9512 0.2981 0.9340 4.0256	1.8640 0.9687 0.2370 0.8574 3.9197	1.8825 0.9818 0.1646 0.8031 3.8375	1.8939 0.9901 0.0844 0.7711 3.7856	1.8977 0.9929 0.0000 0.7604 3.7678	
0.95	1.7428 0.8740 0.4029 1.2841 4.4135	1.7781 0.9016 0.3836 1.1494 4.2835	1.8116 0.9263 0.3493 1.0308 4.1514	1.8416 0.9476 0.3006 0.9317 4.0250	1.8664 0.9651 0.2386 0.8544 3.9140	1.8850 0.9782 0.1656 0.7996 3.8274	1.8964 0.9864 0.0849 0.7672 3.7725	1.9002 0.9892 0.0000 0.7564 3.7536	
1.00	1.7456 0.8699 0.4072 1.2820 4.4201	1.7807 0.8978 0.3873 1.1477 4.2894	1.8141 0.9227 0.3523 1.0289 4.1544	1.8440 0.9441 0.3028 0.9293 4.0236	1.8689 0.9615 0.2402 0.8513 3.9075	1.8875 0.9746 0.1666 0.7960 3.8165	1.8989 0.9827 0.0853 0.7631 3.7586	1.9028 0.9855 0.0000 0.7522 3.7386	
F_x	0.6983	0.6963	0.6935	0.6903	0.6868	0.6838	0.6817	0.6809	

$$M_{\infty} = 7, \beta_{\kappa} = 30^{\circ}, \alpha = 15^{\circ}$$

ξ	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.00	1.3024	1.3052	1.3133	1.3267	1.3451	1.3682	1.3955	1.4265	1.4604
	0.7520	0.7535	0.7582	0.7659	0.7766	0.7899	0.8057	0.8236	0.8432
	0.0000	0.0642	0.1269	0.1866	0.2416	0.2906	0.3319	0.3640	0.3853
	2.8748	2.8384	2.7323	2.5652	2.3506	2.1048	1.8446	1.5862	1.3431
	5.3832	5.3344	5.1912	4.9624	4.6623	4.3085	3.9210	3.5203	3.1259
0.05	1.3078	1.3120	1.3243	1.3446	1.3722	1.4066	1.4470	1.4925	1.5420
	0.7426	0.7451	0.7525	0.7645	0.7810	0.8015	0.8255	0.8526	0.8819
	0.0000	0.0692	0.1363	0.1994	0.2565	0.3058	0.3455	0.3740	0.3898
	2.8743	2.8381	2.7326	2.5664	2.3538	2.1079	1.8485	1.5905	1.3475
	5.3825	5.3427	5.2255	5.0376	4.7898	4.4960	4.1723	3.8365	3.5066
0.10	1.3133	1.3177	1.3309	1.3525	1.3819	1.4185	1.4612	1.5091	1.5610
	0.7334	0.7361	0.7442	0.7575	0.7756	0.7980	0.8242	0.8534	0.8850
	0.0000	0.0730	0.1438	0.2100	0.2698	0.3209	0.3617	0.3905	0.4060
	2.8727	2.8368	2.7319	2.5668	2.3544	2.1106	1.8521	1.5948	1.3519
	5.3804	5.3434	5.2344	5.0594	4.8280	4.5529	4.2489	3.9326	3.6213
0.15	1.3188	1.3234	1.3371	1.3595	1.3899	1.4277	1.4718	1.5211	1.5742
	0.7241	0.7271	0.7358	0.7500	0.7693	0.7932	0.8210	0.8519	0.8850
	0.0000	0.0764	0.1503	0.2194	0.2815	0.3345	0.3765	0.4060	0.4216
	2.8701	2.8342	2.7304	2.5664	2.3554	2.1130	1.8556	1.5990	1.3563
	5.3769	5.3421	5.2397	5.0750	4.8568	4.5965	4.3080	4.0068	3.7094
0.20	1.3243	1.3290	1.3430	1.3659	1.3971	1.4357	1.4806	1.5307	1.5845
	0.7150	0.7181	0.7273	0.7423	0.7627	0.7879	0.8170	0.8492	0.8835
	0.0000	0.0794	0.1562	0.2280	0.2923	0.3470	0.3902	0.4204	0.4363
	2.8664	2.8311	2.7280	2.5653	2.3559	2.1149	1.8588	1.6031	1.3608
	5.3720	5.3393	5.2427	5.0871	4.8804	4.6332	4.3583	4.0701	3.7843
0.25	1.3298	1.3346	1.3488	1.3721	1.4037	1.4428	1.4883	1.5388	1.5931
	0.7059	0.7092	0.7189	0.7346	0.7560	0.7823	0.8126	0.8460	0.8814
	0.0000	0.0823	0.1618	0.2360	0.3024	0.3587	0.4031	0.4340	0.4502
	2.8618	2.8268	2.7246	2.5635	2.3557	2.1165	1.8618	1.6071	1.3653
	5.3658	5.3349	5.2437	5.0965	4.9005	4.6654	4.4029	4.1265	3.8511
0.30	1.3353	1.3401	1.3545	1.3781	1.4100	1.4494	1.4952	1.5460	1.6004
	0.6969	0.7003	0.7104	0.7269	0.7491	0.7765	0.8079	0.8424	0.8787
	0.0000	0.0849	0.1671	0.2436	0.3119	0.3698	0.4153	0.4469	0.4634
	2.8562	2.8215	2.7204	2.5609	2.3550	2.1176	1.8646	1.6110	1.3698
	5.3583	5.3291	5.2430	5.1038	4.9180	4.6943	4.4435	4.1782	3.9122
0.35	1.3408	1.3457	1.3602	1.3839	1.4160	1.4555	1.5015	1.5524	1.6069
	0.6880	0.6916	0.7021	0.7192	0.7423	0.7706	0.8031	0.8386	0.8758
	0.0000	0.0875	0.1721	0.2508	0.3210	0.3804	0.4270	0.4592	0.4759
	2.8496	2.8154	2.7154	2.5575	2.3536	2.1183	1.8670	1.6148	1.3743
	5.3494	5.3220	5.2407	5.1092	4.9332	4.7205	4.4810	4.2262	3.9692
0.40	1.3464	1.3513	1.3658	1.3895	1.4217	1.4613	1.5073	1.5582	1.6126
	0.6791	0.6828	0.6937	0.7115	0.7354	0.7647	0.7982	0.8347	0.8728
	0.0000	0.0900	0.1768	0.2577	0.3297	0.3905	0.4381	0.4709	0.4878
	2.8420	2.8082	2.7095	2.5535	2.3517	2.1186	1.8693	1.6185	1.3789
	5.3393	5.3135	5.2370	5.1130	4.9464	4.7445	4.5160	4.2715	4.0231
0.45	1.3520	1.3569	1.3714	1.3951	1.4273	1.4669	1.5127	1.5635	1.6178
	0.6703	0.6741	0.6854	0.7038	0.7285	0.7587	0.7932	0.8307	0.8696
	0.0000	0.0923	0.1815	0.2643	0.3381	0.4003	0.4489	0.4822	0.4992
	2.8336	2.8002	2.7028	2.5487	2.3493	2.1185	1.8713	1.6221	1.3834
	5.3279	5.3037	5.2319	5.1152	4.9580	4.7666	4.5489	4.3145	4.0743
0.50	1.3576	1.3625	1.3770	1.4006	1.4327	1.4722	1.5179	1.5685	1.6225
	0.6616	0.6655	0.6772	0.6961	0.7216	0.7528	0.7882	0.8266	0.8664
	0.0000	0.0946	0.1859	0.2708	0.3462	0.4097	0.4592	0.4930	0.5101
	2.8241	2.7913	2.6952	2.5432	2.3462	2.1180	1.8730	1.6256	1.3880
	5.3153	5.2926	5.2254	5.1159	4.9680	4.7870	4.5800	4.3555	4.1235

$$M_{\infty} = 7, \beta_{\kappa} = 30^{\circ}, \alpha = 15^{\circ}$$

ξ	θ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.55	1.3632 0.6529 0.0000 2.8138 5.3014	1.3681 0.6569 0.0968 2.7815 5.2803	1.3825 0.6690 0.1902 2.6868 5.2176	1.4061 0.6885 0.2770 2.5370 5.1153	1.4380 0.7148 0.3540 2.3426 4.9765	1.4773 0.7468 0.4188 2.1171 4.8059	1.5227 0.7832 0.4692 1.8746 4.6095	1.5731 0.8226 0.5034 1.6290 4.3949	1.6268 0.8631 0.5205 1.3926 4.1709
0.60	1.3689 0.6442 0.0000 2.8026 5.2863	1.3737 0.6484 0.0990 2.7708 5.2667	1.3881 0.6608 0.1944 2.6776 5.2085	1.4114 0.6809 0.2830 2.5391 5.1133	1.4432 0.7080 0.3617 2.3384 4.9836	1.4822 0.7409 0.4276 2.1157 4.8233	1.5274 0.7782 0.4788 1.8758 4.6376	1.5774 0.8185 0.5135 1.6323 4.4328	1.6307 0.8598 0.5306 1.3973 4.2108
0.65	1.3746 0.6356 0.0000 2.7905 5.2699	1.3794 0.6399 0.1010 2.7592 5.2519	1.3936 0.6526 0.1985 2.6676 5.1981	1.4168 0.6733 0.2889 2.5224 5.1099	1.4482 0.7012 0.3690 2.3337 4.9893	1.4870 0.7349 0.4362 2.1140 4.8394	1.5318 0.7732 0.4882 1.8769 4.6643	1.5814 0.8144 0.5232 1.6356 4.4695	1.6343 0.8566 0.5403 1.4020 4.2614
0.70	1.3803 0.6270 0.0000 2.7774 5.2523	1.3851 0.6314 0.1031 2.7467 5.2358	1.3992 0.6445 0.2025 2.6568 5.1865	1.4221 0.6658 0.2946 2.5141 5.1053	1.4533 0.6944 0.3762 2.3284 4.9938	1.4916 0.7290 0.4446 2.1119 4.8542	1.5360 0.7683 0.4973 1.8776 4.6898	1.5852 0.8104 0.5327 1.6387 4.5049	1.6377 0.8534 0.5497 1.4067 4.3048
0.75	1.3861 0.6184 0.0000 2.7636 5.2334	1.3908 0.6229 0.1051 2.7334 5.2184	1.4047 0.6364 0.2063 2.6452 5.1736	1.4274 0.6583 0.3002 2.5051 5.0994	1.4582 0.6876 0.3832 2.3225 4.9969	1.4962 0.7231 0.4527 2.1093 4.8678	1.5401 0.7633 0.5061 1.8781 4.7141	1.5887 0.8063 0.5413 1.6417 4.5392	1.6407 0.8502 0.5587 1.4115 4.3472
0.80	1.3920 0.6098 0.0000 2.7486 5.2133	1.3966 0.6145 0.1070 2.7191 5.1998	1.4103 0.6283 0.2101 2.6327 5.1594	1.4328 0.6507 0.3056 2.4953 5.0922	1.4631 0.6808 0.3901 2.3160 4.9988	1.5006 0.7172 0.4606 2.1063 4.8801	1.5440 0.7584 0.5147 1.8784 4.7373	1.5921 0.8024 0.5507 1.6447 4.5726	1.6436 0.8470 0.5674 1.4163 4.3887
0.85	1.3979 0.6012 0.0000 2.7328 5.1919	1.4024 0.6060 0.1089 2.7040 5.1799	1.4160 0.6202 0.2138 2.6194 5.1439	1.4381 0.6432 0.3109 2.4848 5.0837	1.4680 0.6741 0.3968 2.3090 4.9995	1.5050 0.7114 0.4683 2.1028 4.8912	1.5478 0.7535 0.5231 1.8784 4.7594	1.5953 0.7984 0.5593 1.6475 4.6050	1.6462 0.8440 0.5759 1.4211 4.4294
0.90	1.4038 0.5926 0.0000 2.7161 5.1693	1.4083 0.5975 0.1107 2.6879 5.1587	1.4216 0.6121 0.2174 2.6053 5.1271	1.4434 0.6357 0.3161 2.4736 5.0739	1.4729 0.6673 0.4033 2.3013 4.9988	1.5092 0.7055 0.4759 2.0990 4.9012	1.5515 0.7486 0.5313 1.8781 4.7805	1.5984 0.7945 0.5678 1.6503 4.6365	1.6487 0.8409 0.5841 1.4260 4.4693
0.95	1.4099 0.5840 0.0000 2.6985 5.1452	1.4143 0.5890 0.1126 2.6710 5.1362	1.4274 0.6040 0.2209 2.5902 5.1089	1.4487 0.6282 0.3212 2.4616 5.0628	1.4777 0.6605 0.4097 2.2930 4.9969	1.5135 0.6997 0.4832 2.0946 4.9099	1.5550 0.7437 0.5393 1.8775 4.8005	1.6013 0.7906 0.5759 1.6529 4.6671	1.6510 0.8379 0.5921 1.4309 4.5086
1.00	1.4160 0.5753 0.0000 2.6799 5.1199	1.4203 0.5805 0.1143 2.6531 5.1123	1.4331 0.5958 0.2244 2.5744 5.0894	1.4541 0.6206 0.3262 2.4488 5.0503	1.4825 0.6538 0.4159 2.2840 4.9936	1.5177 0.6938 0.4905 2.0898 4.9175	1.5585 0.7388 0.5471 1.8767 4.8194	1.6041 0.7867 0.5839 1.6554 4.6968	1.6531 0.8350 0.5998 1.4358 4.5472
x	0.7105	0.7107	0.7113	0.7123	0.7136	0.7152	0.7168	0.7183	0.7194

$$M_{\infty} = 7, \beta_{\kappa} = 30^{\circ}, \alpha = 15^{\circ}$$

ξ	θ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.00	1.4963	1.5331	1.5695	1.6035	1.6334	1.6540	1.6642	1.9136	1.6672
	0.8639	0.8852	0.9062	0.9258	0.9430	0.9550	0.9608	1.1048	0.9626
	0.3937	0.3872	0.3621	0.3156	0.2356	0.1412	0.0657	0.0000	0.0000
	1.1255	0.9399	0.7898	0.6762	0.5982	0.5515	0.5277	0.5203	0.5203
0.05	2.7551	2.4223	2.1392	1.9146	1.7542	1.6551	1.6039	3.2594	1.5878
	1.5947	1.6493	1.7053	1.7613	1.8180	1.8701	1.9048	1.9166	
	0.9131	0.9453	0.9783	1.0112	1.0440	1.0736	1.0932	1.0997	
	0.3913	0.3770	0.3455	0.2947	0.2275	0.1568	0.0829	0.0000	
0.10	1.1295	0.9433	0.7924	0.6779	0.5991	0.5518	0.5277	0.5202	
	3.2012	2.9389	2.7431	2.6358	2.6798	2.9050	3.1558	3.2586	
	1.6158	1.6722	1.7289	1.7843	1.8370	1.8816	1.9098	1.9192	
	0.9181	0.9518	0.9855	1.0182	1.0486	1.0736	1.0868	1.0952	
0.15	0.4069	0.3920	0.3605	0.3117	0.2493	0.1785	0.0955	0.0000	
	1.1337	0.9468	0.7951	0.6797	0.6001	0.5520	0.5275	0.5198	
	3.3332	3.0874	2.9059	2.8143	2.8550	3.0221	3.1914	3.2568	
	1.6300	1.6870	1.7436	1.7979	1.8479	1.8885	1.9134	1.9216	
0.20	0.9193	0.9539	0.9878	1.0199	1.0485	1.0714	1.0861	1.0911	
	0.4223	0.4073	0.3760	0.3283	0.2671	0.1934	0.1034	0.0000	
	1.1379	0.9505	0.7979	0.6816	0.6010	0.5522	0.5272	0.5193	
	3.4334	3.1976	3.0231	2.9345	2.9621	3.0878	3.2094	3.2542	
0.25	1.6408	1.6979	1.7542	1.8076	1.8556	1.8935	1.9163	1.9238	
	0.9188	0.9540	0.9879	1.0194	1.0468	1.0684	1.0825	1.0874	
	0.4370	0.4219	0.3906	0.3431	0.2816	0.2046	0.1091	0.0000	
	1.1423	0.9543	0.8009	0.6836	0.6020	0.5523	0.5267	0.5185	
0.30	3.5179	3.2891	3.1177	3.0270	3.0393	3.1318	3.2199	3.2511	
	1.6496	1.7067	1.7626	1.8151	1.8616	1.8975	1.9189	1.9259	
	0.9175	0.9531	0.9870	1.0179	1.0444	1.0652	1.0790	1.0839	
	0.4509	0.4356	0.4040	0.3564	0.2937	0.2134	0.1133	0.0000	
0.35	1.1467	0.9582	0.8039	0.6856	0.6029	0.5523	0.5260	0.5177	
	3.5927	3.3690	3.1987	3.1030	3.0993	3.1639	3.2261	3.2473	
	1.6570	1.7140	1.7694	1.8212	1.8665	1.9010	1.9213	1.9280	
	0.9155	0.9515	0.9854	1.0158	1.0416	1.0620	1.0757	1.0805	
0.40	0.4640	0.4484	0.4164	0.3681	0.3039	0.2205	0.1167	0.0000	
	1.1512	0.9623	0.8071	0.6876	0.6039	0.5523	0.5253	0.5167	
	3.6610	3.4410	3.2702	3.1680	3.1483	3.1885	3.2296	3.2430	
	1.6634	1.7201	1.7752	1.8264	1.8707	1.9040	1.9236	1.9300	
0.45	0.9133	0.9496	0.9834	1.0135	1.0387	1.0587	1.0724	1.0773	
	0.4764	0.4604	0.4278	0.3787	0.3127	0.2263	0.1193	0.0000	
	1.1559	0.9665	0.8104	0.6898	0.6048	0.5521	0.5245	0.5157	
	3.7244	3.5074	3.3350	3.2251	3.1894	3.2077	3.2312	3.2382	
0.50	1.6689	1.7255	1.7802	1.8308	1.8743	1.9068	1.9257	1.9319	
	0.9109	0.9475	0.9813	1.0109	1.0357	1.0556	1.0693	1.0742	
	0.4881	0.4716	0.4383	0.3881	0.3203	0.2312	0.1216	0.0000	
	1.1606	0.9708	0.8138	0.6920	0.6057	0.5519	0.5235	0.5145	
0.55	3.7841	3.5693	3.3945	3.2761	3.2247	3.2231	3.2312	3.2328	
	1.6739	1.7301	1.7845	1.8346	1.8775	1.9093	1.9277	1.9338	
	0.9083	0.9453	0.9790	1.0084	1.0328	1.0525	1.0662	1.0712	
	0.4992	0.4822	0.4480	0.3966	0.3269	0.2354	0.1234	0.0000	
0.60	1.1654	0.9752	0.8173	0.6942	0.6065	0.5515	0.5224	0.5132	
	3.8409	3.6278	3.4499	3.3224	3.2555	3.2355	3.2300	3.2270	
	1.6783	1.7342	1.7882	1.8380	1.8804	1.9116	1.9297	1.9356	
	0.9057	0.9430	0.9767	1.0058	1.0299	1.0495	1.0633	1.0682	
0.65	0.5099	0.4922	0.4570	0.4043	0.3327	0.2389	0.1249	0.0000	
	1.1703	0.9798	0.8210	0.6965	0.6074	0.5512	0.5213	0.5118	
	3.8953	3.6835	3.5019	3.3650	3.2828	3.2455	3.2278	3.2207	

$$M_{\infty} = 7, \beta_k = 30^\circ, \alpha = 15^\circ$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.55	1.6823 0.9031 0.5200 1.1754 3.9477	1.7379 0.9407 0.5016 0.9845 3.7370	1.7915 0.9745 0.4654 0.8247 3.5513	1.8410 1.0033 0.4113 0.6989 3.4045	1.8830 1.0272 0.3378 0.6082 3.3072	1.9138 1.0466 0.2419 0.5507 3.2537	1.9316 1.0604 0.1262 0.5200 3.2248	1.9374 1.0654 0.0000 0.5103 3.2140	
0.60	1.6858 0.9004 0.5296 1.1805 3.9986	1.7411 0.9384 0.5104 0.9894 3.7885	1.7945 0.9722 0.4732 0.8286 3.5984	1.8436 1.0009 0.4176 0.7014 3.4416	1.8853 1.0245 0.3423 0.6091 3.3293	1.9158 1.0438 0.2445 0.5502 3.2603	1.9335 1.0576 0.1273 0.5187 3.2210	1.9392 1.0625 0.0000 0.5087 3.2067	
0.65	1.6891 0.8978 0.5389 1.1858 4.0480	1.7440 0.9362 0.5189 0.9944 3.8385	1.7971 0.9701 0.4804 0.8327 3.6437	1.8460 0.9986 0.4234 0.7040 3.4765	1.8875 1.0219 0.3463 0.6100 3.3495	1.9178 1.0411 0.2467 0.5496 3.2655	1.9353 1.0548 0.1283 0.5172 3.2164	1.9410 1.0598 0.0000 0.5070 3.1990	
0.70	1.6920 0.8952 0.5477 1.1912 4.0962	1.7465 0.9340 0.5268 0.9996 3.8871	1.7994 0.9680 0.4872 0.8369 3.6875	1.8481 0.9963 0.4286 0.7066 3.5098	1.8895 1.0195 0.3498 0.6109 3.3681	1.9197 1.0385 0.2486 0.5490 3.2696	1.9371 1.0521 0.1290 0.5157 3.2112	1.9428 1.0570 0.0000 0.5051 3.1909	
0.75	1.6946 0.8927 0.5562 1.1968 4.1434	1.7488 0.9319 0.5344 1.0050 3.9347	1.8014 0.9661 0.4935 0.8413 3.7300	1.8500 0.9943 0.4334 0.7094 3.5417	1.8913 1.0171 0.3529 0.6118 3.3854	1.9215 1.0359 0.2503 0.5483 3.2728	1.9389 1.0494 0.1297 0.5141 3.2054	1.9446 1.0543 0.0000 0.5032 3.1822	
0.80	1.6970 0.8903 0.5644 1.2025 4.1898	1.7508 0.9299 0.5416 1.0106 3.9814	1.8031 0.9642 0.4994 0.8459 3.7715	1.8517 0.9923 0.4378 0.7123 3.5725	1.8930 1.0149 0.3557 0.6127 3.4016	1.9232 1.0334 0.2517 0.5476 3.2751	1.9407 1.0467 0.1302 0.5124 3.1989	1.9464 1.0515 0.0000 0.5012 3.1729	
0.85	1.6992 0.8879 0.5723 1.2083 4.2354	1.7526 0.9280 0.5485 1.0164 4.0273	1.8047 0.9625 0.5050 0.8507 3.8122	1.8531 0.9905 0.4418 0.7154 3.6023	1.8945 1.0128 0.3581 0.6137 3.4169	1.9249 1.0310 0.2529 0.5468 3.2767	1.9425 1.0441 0.1307 0.5105 3.1919	1.9483 1.0488 0.0000 0.4990 3.1632	
0.90	1.7011 0.8856 0.5798 1.2143 4.2804	1.7541 0.9262 0.5551 1.0224 4.0725	1.8060 0.9609 0.5102 0.8557 3.8522	1.8544 0.9889 0.4455 0.7186 3.6315	1.8959 1.0109 0.3603 0.6148 3.4316	1.9265 1.0287 0.2539 0.5460 3.2776	1.9443 1.0414 0.1310 0.5086 3.1843	1.9501 1.0461 0.0000 0.4967 3.1528	
0.95	1.7028 0.8834 0.5872 1.2204 4.3248	1.7554 0.9245 0.5613 1.0286 4.1174	1.8071 0.9595 0.5151 0.8609 3.8917	1.8556 0.9874 0.4489 0.7219 3.6601	1.8973 1.0090 0.3622 0.6159 3.4457	1.9281 1.0264 0.2547 0.5452 3.2780	1.9461 1.0388 0.1313 0.5065 3.1760	1.9520 1.0433 0.0000 0.4943 3.1419	
1.00	1.7044 0.8812 0.5942 1.2267 4.3688	1.7566 0.9229 0.5673 1.0350 4.1618	1.8080 0.9582 0.5197 0.8663 3.9309	1.8565 0.9860 0.4520 0.7255 3.6884	1.8984 1.0073 0.3638 0.6172 3.4594	1.9296 1.0242 0.2553 0.5443 3.2779	1.9479 1.0362 0.1315 0.5044 3.1672	1.9539 1.0406 0.0000 0.4917 3.1302	
F_x	0.7187	0.7187	0.7159	0.7108	0.7035	0.6953	0.6893	0.6870	

$$M_{\infty} = 7, \beta_{\kappa} = 30^{\circ}, \alpha = 20^{\circ}$$

ξ	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.00	1.1501	1.1538	1.1651	1.1837	1.2092	1.2414	1.2794	1.3227	1.3701
	0.6640	0.6662	0.6727	0.6834	0.6982	0.7167	0.7386	0.7636	0.7910
	0.0000	0.00874	0.1729	0.2548	0.3316	0.4008	0.4619	0.5118	0.5498
	3.3295	3.2770	3.1242	2.8859	2.5836	2.2433	1.8912	1.5507	1.2401
	5.5014	5.4392	5.2569	4.9673	4.5898	4.1494	3.6729	3.1873	2.7172
0.05	1.1561	1.1612	1.1763	1.2010	1.2346	1.2767	1.3254	1.3805	1.4403
	0.6535	0.6566	0.6656	0.6805	0.7007	0.7261	0.7554	0.7887	0.8246
	0.0000	0.0918	0.1812	0.2658	0.3434	0.4115	0.4686	0.5126	0.5413
	3.3289	3.2767	3.1252	2.8886	2.5883	2.2499	1.8993	1.5597	1.2493
	5.5007	5.4462	5.2856	5.0297	4.6919	4.2962	3.8601	3.4099	2.9706
0.10	1.1622	1.1677	1.1839	1.2104	1.2465	1.2913	1.3435	1.4020	1.4653
	0.6432	0.6466	0.6567	0.6733	0.6959	0.7240	0.7567	0.7934	0.8327
	0.0000	0.0957	0.1886	0.2761	0.3556	0.4248	0.4815	0.5238	0.5499
	3.3270	3.2753	3.1251	2.8905	2.5924	2.2562	1.9072	1.5686	1.2585
	5.4984	5.4473	5.2967	5.0556	4.7374	4.3616	3.9459	3.5154	3.0898
0.15	1.1684	1.1741	1.1910	1.2186	1.2563	1.3029	1.3571	1.4177	1.4831
	0.6329	0.6366	0.6476	0.6656	0.6901	0.7205	0.7558	0.7951	0.8371
	0.0000	0.0992	0.1955	0.2858	0.3674	0.4379	0.4948	0.5364	0.5610
	3.3238	3.2727	3.1239	2.8915	2.5959	2.2621	1.9150	1.5776	1.2678
	5.4947	5.4465	5.3044	5.0762	4.7745	4.4159	4.0183	3.6039	3.1916
0.20	1.1745	1.1804	1.1978	1.2262	1.2650	1.3127	1.3683	1.4302	1.4969
	0.6227	0.6267	0.6385	0.6577	0.6839	0.7162	0.7538	0.7954	0.8397
	0.0000	0.1027	0.2021	0.2951	0.3789	0.4507	0.5081	0.5495	0.5730
	3.3194	3.2689	3.1217	2.8917	2.5988	2.2676	1.9227	1.5866	1.2773
	5.4896	5.4440	5.3097	5.0935	4.8068	4.4645	4.0837	3.6841	3.2846
0.25	1.1806	1.1866	1.2044	1.2334	1.2729	1.3214	1.3779	1.4406	1.5082
	0.6127	0.6169	0.6294	0.6497	0.6775	0.7116	0.7512	0.7949	0.8412
	0.0000	0.1059	0.2084	0.3041	0.3900	0.4633	0.5214	0.5628	0.5856
	3.3139	3.2639	3.1185	2.8910	2.6011	2.2728	1.9303	1.5958	1.2870
	5.4830	5.4400	5.3130	5.1082	4.8359	4.5092	4.1445	3.7592	3.3721
0.30	1.1868	1.1929	1.2109	1.2403	1.2802	1.3293	1.3864	1.4496	1.5177
	0.6027	0.6071	0.6203	0.6417	0.6709	0.7067	0.7482	0.7939	0.8421
	0.0000	0.1091	0.2146	0.3129	0.4009	0.4756	0.5345	0.5761	0.5984
	3.3071	3.2578	3.1142	2.8895	2.6028	2.2776	1.9377	1.6050	1.2970
	5.4750	5.4344	5.3146	5.1209	4.8626	4.5512	4.2021	3.8311	3.4561
0.35	1.1930	1.1991	1.2173	1.2469	1.2872	1.3366	1.3940	1.4574	1.5257
	0.5927	0.5974	0.6112	0.6337	0.6643	0.7017	0.7451	0.7925	0.8424
	0.0000	0.1122	0.2206	0.3215	0.4115	0.4878	0.5475	0.5893	0.6112
	3.2992	3.2506	3.1090	2.8873	2.6040	2.2822	1.9451	1.6144	1.3073
	5.4657	5.4275	5.3146	5.1318	4.8872	4.5911	4.2575	3.9007	3.5378
0.40	1.1992	1.2054	1.2237	1.2534	1.2938	1.3433	1.4009	1.4643	1.5327
	0.5829	0.5878	0.6022	0.6257	0.6576	0.6967	0.7417	0.7909	0.8425
	0.0000	0.1152	0.2264	0.3299	0.4220	0.4997	0.5604	0.6024	0.6240
	3.2902	3.2423	3.1028	2.8842	2.6046	2.2864	1.9524	1.6239	1.3179
	5.4550	5.4192	5.3132	5.1411	4.9102	4.6293	4.3112	3.9687	3.6180
0.45	1.2055	1.2116	1.2299	1.2597	1.3001	1.3496	1.4071	1.4705	1.5386
	0.5731	0.5782	0.5932	0.6177	0.6509	0.6915	0.7382	0.7891	0.8423
	0.0000	0.1182	0.2322	0.3381	0.4322	0.5115	0.5731	0.6154	0.6368
	3.2800	3.2329	3.0957	2.8803	2.6046	2.2903	1.9597	1.6336	1.3289
	5.4429	5.4095	5.3103	5.1490	4.9316	4.6660	4.3635	4.0355	3.6971
0.50	1.2118	1.2179	1.2362	1.2659	1.3062	1.3555	1.4128	1.4760	1.5438
	0.5634	0.5687	0.5843	0.6098	0.6442	0.6863	0.7347	0.7872	0.8420
	0.0000	0.1211	0.2378	0.3462	0.4423	0.5231	0.5856	0.6283	0.6494
	3.2687	3.2225	3.0876	2.8757	2.6040	2.2939	1.9668	1.6435	1.3402
	5.4296	5.3985	5.3061	5.1554	4.9517	4.7014	4.4148	4.1016	3.7757

$$M_{\infty} = 7, \beta_K = 30^\circ, \alpha = 20^\circ$$

ξ	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.55	1.2181	1.2242	1.2424	1.2719	1.3121	1.3611	1.4181	1.4808	1.5483
	0.5537	0.5592	0.5754	0.6018	0.6375	0.6811	0.7311	0.7853	0.8415
	0.0000	0.1239	0.2434	0.3542	0.4523	0.5345	0.5980	0.6410	0.6620
	3.2564	3.2110	3.0785	2.8703	2.6029	2.2972	1.9740	1.6535	1.3519
	5.4149	5.3861	5.3005	5.1605	4.9704	4.7357	4.4651	4.1671	3.8541
0.60	1.2245	1.2305	1.2486	1.2779	1.3177	1.3665	1.4230	1.4852	1.5521
	0.5441	0.5497	0.5666	0.5939	0.6308	0.6759	0.7274	0.7832	0.8410
	0.0000	0.1267	0.2489	0.3620	0.4621	0.5458	0.6102	0.6536	0.6744
	3.2429	3.1984	3.0685	2.8641	2.6013	2.3001	1.9810	1.6637	1.3640
	5.3989	5.3724	5.2936	5.1643	4.9880	4.7690	4.5147	4.2322	3.9324
0.65	1.2309	1.2369	1.2548	1.2839	1.3233	1.3716	1.4276	1.4892	1.5554
	0.5345	0.5403	0.5577	0.5860	0.6241	0.6706	0.7238	0.7812	0.8404
	0.0000	0.1295	0.2542	0.3697	0.4718	0.5570	0.6223	0.6661	0.6866
	3.2283	3.1848	3.0575	2.8571	2.5990	2.3028	1.9881	1.6741	1.3765
	5.3816	5.3574	5.2854	5.1668	5.0043	4.8014	4.5637	4.2972	4.0109
0.70	1.2374	1.2433	1.2610	1.2897	1.3287	1.3764	1.4318	1.4927	1.5582
	0.5249	0.5310	0.5489	0.5781	0.6175	0.6654	0.7201	0.7791	0.8397
	0.0000	0.1322	0.2595	0.3774	0.4813	0.5680	0.6342	0.6784	0.6987
	3.2127	3.1701	3.0456	2.8493	2.5962	2.3051	1.9950	1.6848	1.3894
	5.3629	5.3411	5.2758	5.1680	5.0196	4.8328	4.6121	4.3620	4.0898
0.75	1.2439	1.2497	1.2672	1.2955	1.3340	1.3811	1.4357	1.4958	1.5605
	0.5153	0.5216	0.5401	0.5702	0.6108	0.6601	0.7164	0.7769	0.8391
	0.0000	0.1349	0.2648	0.3849	0.4908	0.5789	0.6460	0.6905	0.7106
	3.1960	3.1543	3.0327	2.8407	2.5928	2.3071	1.9919	1.6956	1.4028
	5.3429	5.3234	5.2649	5.1680	5.0337	4.8634	4.6601	4.4269	4.1693
0.80	1.2505	1.2563	1.2734	1.3013	1.3392	1.3855	1.4393	1.4986	1.5624
	0.5058	0.5122	0.5313	0.5623	0.6041	0.6549	0.7127	0.7748	0.8385
	0.0000	0.1376	0.2699	0.3923	0.5001	0.5897	0.6577	0.7026	0.7224
	3.1781	3.1375	3.0188	2.8313	2.5889	2.3088	2.0088	1.7067	1.4166
	5.3216	5.3044	5.2527	5.1667	5.0467	4.8931	4.7077	4.4919	4.2493
0.85	1.2572	1.2628	1.2797	1.3071	1.3443	1.3898	1.4428	1.5010	1.5639
	0.4962	0.5029	0.5225	0.5544	0.5974	0.6496	0.7089	0.7727	0.8378
	0.0000	0.1402	0.2750	0.3997	0.5093	0.6004	0.6693	0.7145	0.7340
	3.1591	3.1196	3.0039	2.8211	2.5842	2.3101	2.0155	1.7179	1.4308
	5.2989	5.2840	5.2391	5.1641	5.0585	4.9220	4.7548	4.5571	4.3301
0.90	1.2639	1.2695	1.2860	1.3129	1.3493	1.3940	1.4460	1.5032	1.5651
	0.4866	0.4935	0.5137	0.5465	0.5907	0.6443	0.7052	0.7705	0.8372
	0.0000	0.1427	0.2801	0.4069	0.5184	0.6109	0.6807	0.7262	0.7455
	3.1390	3.1006	2.9881	2.8100	2.5790	2.3110	2.0222	1.7294	1.4456
	5.2748	5.2622	5.2242	5.1602	5.0692	4.9501	4.8016	4.6224	4.4116
0.95	1.2707	1.2762	1.2924	1.3186	1.3543	1.3980	1.4489	1.5051	1.5659
	0.4770	0.4841	0.5048	0.5386	0.5839	0.6390	0.7015	0.7684	0.8365
	0.0000	0.1453	0.2851	0.4141	0.5275	0.6213	0.6920	0.7379	0.7568
	3.1178	3.0805	2.9712	2.7981	2.5731	2.3115	2.0288	1.7410	1.4608
	5.2493	5.2390	5.2078	5.1549	5.0788	4.9773	4.8480	4.6880	4.4941
1.00	1.2777	1.2830	1.2988	1.3244	1.3593	1.4020	1.4518	1.5067	1.5664
	0.4674	0.4746	0.4960	0.5306	0.5772	0.6337	0.6977	0.7662	0.8359
	0.0000	0.1478	0.2900	0.4212	0.5364	0.6317	0.7032	0.7494	0.7680
	3.0953	3.0592	2.9532	2.7852	2.5665	2.3116	2.0352	1.7529	1.4764
	5.2222	5.2143	5.1900	5.1483	5.0871	5.0036	4.8939	4.7538	4.5774
F_x	0.7230	0.7235	0.7248	0.7271	0.7301	0.7341	0.7386	0.7440	0.7491

$$M_{\infty} = 7, \beta_k = 30^\circ, \alpha = 20^\circ$$

ξ	θ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.00	1.4202 0.8200 0.5754 0.9714 2.2822	1.4735 0.8508 0.5808 0.7502 1.8975	1.5244 0.8801 0.5700 0.5773 1.5737	1.5783 0.9113 0.5380 0.4503 1.3177	1.6238 0.9375 0.4791 0.3661 1.1367	1.6627 0.9600 0.3681 0.3245 1.0428	1.6952 0.9787 0.0997 0.3143 1.0193	1.9596 1.1314 0.0000 0.3141 2.4989	1.6975 0.9801 0.0000 0.3141 1.0188
0.05	1.5028 0.8621 0.5548 0.9801 2.5514	1.5695 0.9017 0.5488 0.7577 2.1904	1.6329 0.9394 0.5243 0.5834 1.8644	1.7032 0.9802 0.4721 0.4546 1.6517	1.7637 1.0160 0.3962 0.3689 1.4874	1.8343 1.0589 0.2413 0.3257 1.4699	1.9272 1.1095 0.1178 0.3144 2.1124	1.9624 1.1266 0.0000 0.3140 2.4985	
0.10	1.5318 0.8740 0.5589 0.9887 2.6866	1.6011 0.9160 0.5487 0.7652 2.3314	1.6698 0.9575 0.5175 0.5893 2.0237	1.7411 0.9991 0.4642 0.4588 1.8161	1.8064 1.0383 0.3770 0.3714 1.6751	1.8778 1.0800 0.2509 0.3266 1.7885	1.9424 1.1126 0.1405 0.3146 2.2569	1.9647 1.1227 0.0000 0.3137 2.4970	
0.15	1.5517 0.8809 0.5675 0.9975 2.8007	1.6226 0.9250 0.5545 0.7729 2.4518	1.6935 0.9682 0.5206 0.5954 2.1555	1.7649 1.0100 0.4654 0.4631 1.9504	1.8314 1.0495 0.3783 0.3739 1.8349	1.8979 1.0863 0.2680 0.3276 1.9652	1.9497 1.1116 0.1545 0.3147 2.3276	1.9665 1.1197 0.0000 0.3133 2.4950	
0.20	1.5667 0.8856 0.5779 1.0066 2.9039	1.6386 0.9311 0.5630 0.7808 2.5615	1.7104 0.9754 0.5275 0.6018 2.2727	1.7816 1.0170 0.4709 0.4677 2.0694	1.8478 1.0552 0.3862 0.3766 1.9649	1.9100 1.0878 0.2834 0.3287 2.0839	1.9543 1.1097 0.1638 0.3147 2.3701	1.9680 1.1172 0.0000 0.3130 2.4927	
0.25	1.5787 0.8888 0.5893 1.0161 3.0009	1.6511 0.9357 0.5728 0.7892 2.6649	1.7232 0.9805 0.5362 0.6085 2.3805	1.7940 1.0216 0.4786 0.4725 2.1775	1.8594 1.0580 0.3960 0.3794 2.0739	1.9184 1.0874 0.2962 0.3299 2.1715	1.9576 1.1075 0.1703 0.3148 2.3985	1.9693 1.1150 0.0000 0.3125 2.4903	
0.30	1.5885 0.8912 0.6011 1.0259 3.0941	1.6611 0.9391 0.5834 0.7979 2.7639	1.7332 0.9843 0.5457 0.6156 2.4823	1.8035 1.0248 0.4872 0.4777 2.2774	1.8681 1.0593 0.4059 0.3825 2.1680	1.9245 1.0860 0.3066 0.3311 2.2399	1.9602 1.1053 0.1750 0.3148 2.4186	1.9705 1.1131 0.0000 0.3121 2.4878	
0.35	1.5967 0.8930 0.6131 1.0361 3.1848	1.6692 0.9419 0.5943 0.8071 2.8599	1.7412 0.9872 0.5555 0.6232 2.5800	1.8109 1.0271 0.4960 0.4833 2.3709	1.8748 1.0597 0.4153 0.3858 2.2514	1.9293 1.0843 0.3152 0.3324 2.2955	1.9623 1.1033 0.1785 0.3147 2.4333	1.9715 1.1114 0.0000 0.3116 2.4852	
0.40	1.6035 0.8944 0.6252 1.0467 3.2739	1.6759 0.9441 0.6053 0.8168 2.9539	1.7475 0.9897 0.5654 0.6313 2.6748	1.8167 1.0288 0.5048 0.4892 2.4596	1.8800 1.0596 0.4239 0.3894 2.3269	1.9331 1.0824 0.3222 0.3338 2.3422	1.9641 1.1013 0.1811 0.3147 2.4443	1.9725 1.1099 0.0000 0.3112 2.4824	
0.45	1.6092 0.8955 0.6373 1.0578 3.3620	1.6813 0.9461 0.6163 0.8271 3.0468	1.7525 0.9917 0.5752 0.6399 2.7674	1.8212 1.0301 0.5133 0.4957 2.5446	1.8841 1.0594 0.4317 0.3933 2.3963	1.9361 1.0806 0.3279 0.3352 2.3824	1.9656 1.0995 0.1830 0.3146 2.4527	1.9734 1.1084 0.0000 0.3107 2.4795	
0.50	1.6140 0.8964 0.6492 1.0694 3.4497	1.6856 0.9478 0.6272 0.8378 3.1390	1.7564 0.9936 0.5847 0.6490 2.8587	1.8247 1.0314 0.5214 0.5025 2.6270	1.8873 1.0591 0.4387 0.3975 2.4613	1.9386 1.0789 0.3326 0.3368 2.4177	1.9670 1.0977 0.1844 0.3144 2.4592	1.9743 1.1070 0.0000 0.3101 2.4765	

$$M_{\infty} = 7, \beta_K = 30^\circ, \alpha = 20^\circ$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.55	1.6180 0.8972 0.6610 1.0815 3.5374	1.6891 0.9493 0.6379 0.8492 3.2310	1.7594 0.9954 0.5940 0.6587 2.9491	1.8273 1.0325 0.5291 0.5099 2.7075	1.8897 1.0588 0.4449 0.4020 2.5228	1.9406 1.0773 0.3363 0.3384 2.4494	1.9682 1.0961 0.1854 0.3143 2.4642	1.9752 1.1057 0.0000 0.3096 2.4733	
0.60	1.6212 0.8978 0.6727 1.0942 3.6252	1.6919 0.9508 0.6484 0.8612 3.3232	1.7617 0.9971 0.6030 0.6691 3.0391	1.8291 1.0338 0.5363 0.5179 2.7867	1.8915 1.0588 0.4504 0.4070 2.5820	1.9422 1.0760 0.3394 0.3402 2.4785	1.9693 1.0946 0.1861 0.3142 2.4681	1.9760 1.1044 0.0000 0.3090 2.4700	
0.65	1.6239 0.8985 0.6842 1.1074 3.7136	1.6939 0.9523 0.6587 0.8738 3.4159	1.7631 0.9988 0.6117 0.6801 3.1291	1.8303 1.0351 0.5431 0.5264 2.8652	1.8927 1.0589 0.4552 0.4123 2.6396	1.9435 1.0749 0.3418 0.3421 2.5058	1.9703 1.0932 0.1866 0.3140 2.4711	1.9768 1.1031 0.0000 0.3084 2.4664	
0.70	1.6259 0.8991 0.6955 1.1213 3.8026	1.6953 0.9537 0.6688 0.8872 3.5092	1.7640 1.0006 0.6200 0.6918 3.2195	1.8309 1.0366 0.5494 0.5355 2.9436	1.8934 1.0594 0.4595 0.4180 2.6963	1.9445 1.0740 0.3436 0.3441 2.5317	1.9713 1.0919 0.1868 0.3139 2.4734	1.9777 1.1019 0.0000 0.3077 2.4626	
0.75	1.6275 0.8997 0.7067 1.1357 3.8925	1.6962 0.9552 0.6786 0.9012 3.6035	1.7643 1.0025 0.6280 0.7042 3.3105	1.8310 1.0382 0.5554 0.5452 3.0221	1.8936 1.0601 0.4632 0.4242 2.7525	1.9451 1.0735 0.3450 0.3464 2.5568	1.9722 1.0906 0.1868 0.3137 2.4752	1.9785 1.1006 0.0000 0.3070 2.4585	
0.80	1.6285 0.9003 0.7176 1.1507 3.9835	1.6965 0.9568 0.6881 0.9159 3.6990	1.7641 1.0045 0.6357 0.7173 3.4026	1.8305 1.0401 0.5609 0.5556 3.1012	1.8933 1.0612 0.4665 0.4309 2.8090	1.9455 1.0732 0.3459 0.3489 2.5817	1.9730 1.0895 0.1867 0.3135 2.4766	1.9794 1.0993 0.0000 0.3062 2.4542	
0.85	1.6292 0.9009 0.7284 1.1664 4.0756	1.6964 0.9584 0.6975 0.9314 3.7958	1.7634 1.0066 0.6432 0.7311 3.4958	1.8296 1.0422 0.5661 0.5666 3.1812	1.8927 1.0625 0.4693 0.4382 2.8659	1.9457 1.0731 0.3465 0.3517 2.6066	1.9738 1.0884 0.1864 0.3134 2.4778	1.9803 1.0980 0.0000 0.3054 2.4494	
0.90	1.6294 0.9016 0.7390 1.1828 4.1689	1.6958 0.9601 0.7066 0.9477 3.8942	1.7623 1.0089 0.6503 0.7458 3.5903	1.8282 1.0446 0.5709 0.5784 3.2623	1.8916 1.0643 0.4717 0.4460 2.9238	1.9455 1.0734 0.3468 0.3548 2.6320	1.9746 1.0873 0.1859 0.3132 2.4787	1.9812 1.0967 0.0000 0.3045 2.4443	
0.95	1.6292 0.9023 0.7494 1.1998 4.2637	1.6948 0.9618 0.7155 0.9647 3.9941	1.7607 1.0113 0.6571 0.7612 3.6864	1.8265 1.0471 0.5754 0.5909 3.3447	1.8901 1.0663 0.4738 0.4544 2.9830	1.9451 1.0740 0.3468 0.3581 2.6582	1.9753 1.0863 0.1854 0.3131 2.4795	1.9822 1.0953 0.0000 0.3035 2.4387	
1.00	1.6287 0.9031 0.7596 1.2176 4.3600	1.6934 0.9637 0.7241 0.9826 4.0958	1.7588 1.0138 0.6637 0.7775 3.7843	1.8244 1.0499 0.5797 0.6041 3.4287	1.8883 1.0688 0.4756 0.4634 3.0436	1.9445 1.0750 0.3466 0.3619 2.6856	1.9759 1.0854 0.1847 0.3130 2.4803	1.9832 1.0938 0.0000 0.3024 2.4325	
F_x	0.7545	0.7583	0.7604	0.7583	0.7509	0.7349	0.7158	0.7079	

$$M_{\infty} = 7, \beta_k = 35^{\circ}, \alpha = 5^{\circ}$$

ξ	θ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.00	1.3526 0.9471 0.0000 2.4447 5.2278	1.3535 0.9477 0.0200 2.4346 5.2124	1.3560 0.9495 0.0392 2.4049 5.1669	1.3602 0.9524 0.0571 2.3572 5.0936	1.3659 0.9564 0.0728 2.2941 4.9958	1.3728 0.9613 0.0858 2.2189 4.8782	1.3808 0.9669 0.0956 2.1353 4.7463	1.3897 0.9731 0.1018 2.0473 4.6057	1.3990 0.9796 0.1039 1.9588 4.4625
0.05	1.3580 0.9394 0.0000 2.4442 5.2270	1.3599 0.9407 0.0234 2.4342 5.2187	1.3656 0.9448 0.0459 2.4045 5.1942	1.3748 0.9514 0.0667 2.3569 5.1554	1.3874 0.9603 0.0850 2.2939 5.1049	1.4030 0.9714 0.1001 2.2188 5.0463	1.4211 0.9843 0.1114 2.1353 4.9839	1.4412 0.9986 0.1186 2.0473 4.9223	1.4627 1.0138 0.1211 1.9588 4.8658
0.10	1.3635 0.9318 0.0000 2.4429 5.2250	1.3654 0.9332 0.0255 2.4329 5.2173	1.3712 0.9374 0.0501 2.4033 5.1947	1.3807 0.9443 0.0729 2.3558 5.1587	1.3936 0.9536 0.0930 2.2930 5.1119	1.4095 0.9651 0.1097 2.2180 5.0574	1.4278 0.9783 0.1223 2.1346 4.9990	1.4481 0.9930 0.1305 2.0468 4.9409	1.4697 1.0085 0.1337 1.9583 4.8869
0.15	1.3689 0.9242 0.0000 2.4408 5.2217	1.3708 0.9257 0.0272 2.4307 5.2144	1.3767 0.9300 0.0534 2.4013 5.1932	1.3863 0.9371 0.0777 2.3540 5.1592	1.3993 0.9467 0.0992 2.2913 5.1150	1.4153 0.9585 0.1172 2.2165 5.0633	1.4338 0.9721 0.1308 2.1333 5.0077	1.4542 0.9870 0.1397 2.0456 4.9519	1.4757 1.0027 0.1433 1.9572 4.8995
0.20	1.3743 0.9168 0.0000 2.4378 5.2172	1.3762 0.9183 0.0286 2.4278 5.2103	1.3822 0.9228 0.0562 2.3985 5.1901	1.3918 0.9300 0.0818 2.3513 5.1578	1.4049 0.9398 0.1045 2.2889 5.1156	1.4210 0.9518 0.1235 2.2143 5.0662	1.4395 0.9657 0.1379 2.1314 5.0128	1.4598 0.9808 0.1473 2.0438 4.9588	1.4813 0.9968 0.1513 1.9556 4.9076
0.25	1.3796 0.9095 0.0000 2.4340 5.2114	1.3816 0.9111 0.0299 2.4241 5.2049	1.3876 0.9156 0.0587 2.3949 5.1856	1.3972 0.9230 0.0855 2.3480 5.1548	1.4103 0.9330 0.1092 2.2858 5.1144	1.4264 0.9452 0.1290 2.2115 5.0669	1.4449 0.9593 0.1441 2.1288 5.0154	1.4652 0.9747 0.1540 2.0415 4.9630	1.4866 0.9908 0.1582 1.9534 4.9127
0.30	1.3850 0.9023 0.0000 2.4295 5.2045	1.3870 0.9039 0.0310 2.4196 5.1982	1.3929 0.9085 0.0609 2.3906 5.1798	1.4026 0.9161 0.0887 2.3439 5.1503	1.4157 0.9262 0.1133 2.2820 5.1115	1.4317 0.9387 0.1339 2.2080 5.0659	1.4502 0.9530 0.1496 2.1256 5.0160	1.4704 0.9685 0.1599 2.0385 4.9649	1.4917 0.9849 0.1643 1.9507 4.9155
0.35	1.3903 0.8952 0.0000 2.4242 5.1965	1.3923 0.8968 0.0320 2.4144 5.1905	1.3982 0.9015 0.0630 2.3856 5.1728	1.4079 0.9092 0.0917 2.3391 5.1445	1.4209 0.9195 0.1171 2.2775 5.1073	1.4370 0.9322 0.1383 2.2039 5.0632	1.4554 0.9467 0.1546 2.1218 5.0149	1.4755 0.9625 0.1652 2.0351 4.9650	1.4967 0.9790 0.1698 1.9474 4.9164
0.40	1.3956 0.8882 0.0000 2.4183 5.1873	1.3976 0.8898 0.0330 2.4085 5.1816	1.4035 0.8946 0.0648 2.3798 5.1647	1.4131 0.9024 0.0944 2.3337 5.1375	1.4262 0.9129 0.1206 2.2725 5.1017	1.4421 0.9258 0.1424 2.1992 5.0591	1.4605 0.9404 0.1592 2.1175 5.0122	1.4805 0.9564 0.1701 2.0311 4.9635	1.5015 0.9731 0.1747 1.9437 4.9156
0.45	1.4009 0.8813 0.0000 2.4116 5.1771	1.4029 0.8829 0.0339 2.4019 5.1716	1.4088 0.8878 0.0666 2.3734 5.1554	1.4184 0.8957 0.0969 2.3276 5.1293	1.4313 0.9064 0.1238 2.2667 5.0948	1.4472 0.9194 0.1462 2.1939 5.0537	1.4655 0.9343 0.1634 2.1126 5.0082	1.4854 0.9505 0.1746 2.0265 4.9606	1.5063 0.9673 0.1793 1.9395 4.9134
0.50	1.4062 0.8745 0.0000 2.4042 5.1658	1.4082 0.8761 0.0347 2.3947 5.1605	1.4140 0.8811 0.0682 2.3664 5.1450	1.4236 0.8891 0.0992 2.3209 5.1200	1.4365 0.8999 0.1268 2.2604 5.0868	1.4523 0.9131 0.1497 2.1880 5.0471	1.4704 0.9282 0.1673 2.1072 5.0029	1.4902 0.9446 0.1787 2.0215 4.9563	1.5110 0.9616 0.1835 1.9348 4.9098

$$M_{\infty} = 7, \beta_k = 35^\circ, \alpha = 5^\circ$$

ξ	θ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.55	1.4115 0.8677 0.0000 2.3962 5.1535	1.4135 0.8694 0.0355 2.3867 5.1485	1.4193 0.8744 0.0697 2.3587 5.1336	1.4288 0.8825 0.1014 2.3135 5.1096	1.4416 0.8935 0.1296 2.2535 5.0777	1.4573 0.9069 0.1530 2.1816 5.0393	1.4753 0.9221 0.1709 2.1012 4.9964	1.4950 0.9387 0.1826 2.0160 4.9509	1.5157 0.9560 0.1874 1.9296 4.9049
0.60	1.4168 0.8610 0.0000 2.3876 5.1402	1.4187 0.8627 0.0362 2.3781 5.1354	1.4245 0.8678 0.0711 2.3503 5.1212	1.4340 0.8760 0.1035 2.3055 5.0982	1.4467 0.8872 0.1322 2.2460 5.0675	1.4623 0.9007 0.1561 2.1746 5.0304	1.4802 0.9162 0.1744 2.0947 4.9887	1.4998 0.9329 0.1862 2.0099 4.9442	1.5203 0.9503 0.1911 1.9240 4.8989
0.65	1.4221 0.8543 0.0000 2.3783 5.1259	1.4240 0.8561 0.0369 2.3689 5.1213	1.4298 0.8612 0.0725 2.3413 5.1077	1.4391 0.8696 0.1055 2.2969 5.0857	1.4518 0.8809 0.1347 2.2379 5.0562	1.4673 0.8946 0.1590 2.1670 5.0204	1.4850 0.9102 0.1776 2.0877 4.9799	1.5045 0.9272 0.1896 2.0035 4.9364	1.5248 0.9448 0.1945 1.9179 4.8917
0.70	1.4274 0.8477 0.0000 2.3683 5.1105	1.4293 0.8495 0.0376 2.3591 5.1062	1.4350 0.8547 0.0738 2.3318 5.0932	1.4443 0.8632 0.1074 2.2878 5.0722	1.4568 0.8746 0.1371 2.2292 5.0438	1.4722 0.8885 0.1618 2.1590 5.0093	1.4899 0.9043 0.1806 2.0802 4.9700	1.5091 0.9215 0.1928 1.9965 4.9275	1.5293 0.9393 0.1977 1.9114 4.8834
0.75	1.4327 0.8412 0.0000 2.3577 5.0942	1.4346 0.8430 0.0382 2.3486 5.0901	1.4403 0.8483 0.0750 2.3216 5.0777	1.4495 0.8569 0.1091 2.2780 5.0576	1.4619 0.8685 0.1393 2.2200 5.0305	1.4772 0.8825 0.1644 2.1504 4.9972	1.4947 0.8985 0.1835 2.0722 4.9591	1.5138 0.9158 0.1958 1.9890 4.9176	1.5338 0.9338 0.2008 1.9044 4.8741
0.80	1.4380 0.8347 0.0000 2.3465 5.0769	1.4399 0.8365 0.0388 2.3375 5.0730	1.4455 0.8419 0.0762 2.3108 5.0613	1.4546 0.8506 0.1108 2.2677 5.0421	1.4670 0.8623 0.1414 2.2102 5.0161	1.4821 0.8765 0.1669 2.1412 4.9841	1.4994 0.8927 0.1862 2.0637 4.9472	1.5184 0.9102 0.1986 1.9811 4.9066	1.5383 0.9284 0.2036 1.8970 4.8638
0.85	1.4434 0.8282 0.0000 2.3347 5.0587	1.4452 0.8301 0.0394 2.3258 5.0549	1.4508 0.8355 0.0773 2.2994 5.0438	1.4598 0.8443 0.1124 2.2567 5.0256	1.4721 0.8562 0.1435 2.1999 5.0007	1.4870 0.8706 0.1692 2.1315 4.9700	1.5042 0.8870 0.1888 2.0547 4.9342	1.5231 0.9047 0.2013 1.9728 4.8946	1.5428 0.9230 0.2063 1.8892 4.8525
0.90	1.4488 0.8218 0.0000 2.3223 5.0394	1.4506 0.8236 0.0399 2.3134 5.0359	1.4561 0.8292 0.0784 2.2873 5.0253	1.4650 0.8381 0.1140 2.2452 5.0080	1.4771 0.8501 0.1454 2.1890 4.9843	1.4920 0.8647 0.1715 2.1213 4.9548	1.5090 0.8812 0.1913 2.0452 4.9203	1.5277 0.8991 0.2039 1.9639 4.8816	1.5472 0.9177 0.2089 1.8809 4.8402
0.95	1.4542 0.8154 0.0000 2.3092 5.0191	1.4560 0.8172 0.0404 2.3005 5.0158	1.4614 0.8228 0.0794 2.2747 5.0058	1.4703 0.8319 0.1154 2.2331 4.9895	1.4823 0.8440 0.1472 2.1775 4.9669	1.4969 0.8588 0.1736 2.1106 4.9386	1.5138 0.8755 0.1936 2.0352 4.9053	1.5323 0.8936 0.2064 1.9546 4.8676	1.5517 0.9124 0.2113 1.8722 4.8268
1.00	1.4596 0.8089 0.0000 2.2955 4.9978	1.4614 0.8109 0.0409 2.2869 4.9947	1.4668 0.8165 0.0804 2.2615 4.9853	1.4756 0.8257 0.1168 2.2204 4.9699	1.4874 0.8380 0.1490 2.1655 4.9485	1.5019 0.8529 0.1757 2.0993 4.9215	1.5187 0.8698 0.1959 2.0247 4.8893	1.5370 0.8881 0.2087 1.9448 4.8526	1.5562 0.9070 0.2136 1.8631 4.8125
F_x	0.8543	0.8542	0.8539	0.8534	0.8526	0.8516	0.8503	0.8488	0.8470

$$M_{\infty} = 7, \beta_{\kappa} = 35^{\circ}, \alpha = 5^{\circ}$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.00	1.4084 0.9861 0.1019 1.8733 4.3226	1.4175 0.9925 0.0958 1.7941 4.1912	1.4260 0.9985 0.0860 1.7236 4.0729	1.4334 1.0037 0.0729 1.6639 3.9716	1.4395 1.0080 0.0570 1.6163 3.8902	1.4441 1.0112 0.0391 1.5819 3.8308	1.4469 1.0131 0.0199 1.5610 3.7946	1.5792 1.1055 0.0000 1.5540 4.7637	1.4479 1.0138 0.0000 1.5540 3.7825
0.05	1.4848 1.0295 0.1191 1.8734 4.8185	1.5066 1.0450 0.1124 1.7941 4.7831	1.5274 1.0597 0.1013 1.7236 4.7609	1.5460 1.0729 0.0894 1.6638 4.7509	1.5617 1.0840 0.0680 1.6162 4.7502	1.5735 1.0924 0.0489 1.5816 4.7547	1.5809 1.0976 0.0290 1.5607 4.7597	1.5835 1.0994 0.0000 1.5538 4.7618	
0.10	1.4917 1.0243 0.1318 1.8729 4.8406	1.5133 1.0399 0.1249 1.7936 4.8044	1.5336 1.0544 0.1131 1.7230 4.7793	1.5517 1.0675 0.0987 1.6631 4.7648	1.5669 1.0783 0.0764 1.6155 4.7588	1.5783 1.0865 0.0529 1.5808 4.7580	1.5854 1.0916 0.0270 1.5599 4.7592	1.5878 1.0933 0.0000 1.5529 4.7599	
0.15	1.4976 1.0187 0.1415 1.8718 4.8537	1.5190 1.0343 0.1343 1.7925 4.8167	1.5390 1.0489 0.1218 1.7219 4.7896	1.5568 1.0619 0.1044 1.6620 4.7721	1.5716 1.0726 0.0825 1.6142 4.7624	1.5828 1.0807 0.0572 1.5795 4.7583	1.5896 1.0857 0.0292 1.5585 4.7571	1.5920 1.0874 0.0000 1.5515 4.7569	
0.20	1.5030 1.0129 0.1495 1.8703 4.8621	1.5242 1.0286 0.1420 1.7910 4.8245	1.5440 1.0433 0.1289 1.7203 4.7958	1.5616 1.0562 0.1105 1.6603 4.7758	1.5762 1.0670 0.0874 1.6125 4.7634	1.5871 1.0751 0.0606 1.5777 4.7567	1.5938 1.0800 0.0310 1.5567 4.7536	1.5961 1.0817 0.0000 1.5496 4.7528	
0.25	1.5082 1.0071 0.1564 1.8682 4.8675	1.5292 1.0229 0.1486 1.7889 4.8292	1.5488 1.0376 0.1349 1.7182 4.7991	1.5662 1.0507 0.1157 1.6582 4.7771	1.5806 1.0614 0.0916 1.6103 4.7624	1.5913 1.0695 0.0634 1.5755 4.7536	1.5979 1.0745 0.0325 1.5544 4.7491	1.6001 1.0762 0.0000 1.5473 4.7477	
0.30	1.5132 1.0013 0.1625 1.8656 4.8704	1.5341 1.0173 0.1544 1.7864 4.8316	1.5535 1.0321 0.1401 1.7157 4.8003	1.5706 1.0452 0.1202 1.6556 4.7765	1.5848 1.0560 0.0951 1.6076 4.7599	1.5954 1.0641 0.0661 1.5728 4.7493	1.6019 1.0691 0.0337 1.5516 4.7435	1.6041 1.0708 0.0000 1.5446 4.7416	
0.35	1.5180 0.9956 0.1679 1.8625 4.8715	1.5387 1.0117 0.1595 1.7834 4.8322	1.5580 1.0266 0.1448 1.7127 4.7997	1.5750 1.0398 0.1241 1.6526 4.7744	1.5890 1.0506 0.0982 1.6046 4.7560	1.5995 1.0587 0.0680 1.5697 4.7438	1.6059 1.0638 0.0348 1.5485 4.7369	1.6081 1.0655 0.0000 1.5414 4.7347	
0.40	1.5227 0.9899 0.1728 1.8589 4.8709	1.5433 1.0061 0.1641 1.7799 4.8311	1.5624 1.0212 0.1490 1.7093 4.7976	1.5792 1.0344 0.1277 1.6492 4.7708	1.5931 1.0454 0.1010 1.6011 4.7509	1.6034 1.0535 0.0700 1.5661 4.7373	1.6098 1.0586 0.0358 1.5449 4.7294	1.6120 1.0603 0.0000 1.5378 4.7268	
0.45	1.5274 0.9843 0.1773 1.8549 4.8687	1.5478 1.0007 0.1684 1.7760 4.8285	1.5667 1.0158 0.1528 1.7055 4.7941	1.5834 1.0292 0.1309 1.6454 4.7661	1.5972 1.0402 0.1035 1.5972 4.7447	1.6074 1.0484 0.0717 1.5622 4.7298	1.6137 1.0534 0.0367 1.5410 4.7210	1.6158 1.0552 0.0000 1.5338 4.7181	
0.50	1.5319 0.9787 0.1814 1.8504 4.8653	1.5522 0.9952 0.1722 1.7717 4.8247	1.5710 1.0105 0.1562 1.7012 4.7894	1.5875 1.0240 0.1338 1.6411 4.7601	1.6012 1.0350 0.1058 1.5930 4.7375	1.6113 1.0433 0.0733 1.5579 4.7214	1.6176 1.0484 0.0375 1.5366 4.7118	1.6197 1.0501 0.0000 1.5295 4.7086	

$$M_{\infty} = 7, \beta_{\kappa} = 35^{\circ}, \alpha = 5^{\circ}$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.55	1.5364	1.5566	1.5752	1.5916	1.6051	1.6152	1.6214	1.6235	
	0.9732	0.9899	1.0053	1.0188	1.0300	1.0383	1.0435	1.0452	
	0.1852	0.1758	0.1594	0.1365	0.1079	0.0747	0.0382	0.0000	
	1.8455	1.7670	1.6966	1.6365	1.5884	1.5533	1.5320	1.5248	
	4.8606	4.8196	4.7835	4.7532	4.7292	4.7121	4.7017	4.6983	
0.60	1.5409	1.5609	1.5794	1.5957	1.6091	1.6190	1.6252	1.6273	
	0.9678	0.9846	1.0001	1.0138	1.0250	1.0334	1.0386	1.0403	
	0.1888	0.1791	0.1624	0.1390	0.1098	0.0760	0.0388	0.0000	
	1.8402	1.7619	1.6916	1.6315	1.5834	1.5483	1.5269	1.5198	
	4.8547	4.8134	4.7765	4.7452	4.7201	4.7019	4.6909	4.6872	
0.65	1.5453	1.5651	1.5835	1.5997	1.6130	1.6229	1.6290	1.6311	
	0.9624	0.9794	0.9950	1.0088	1.0201	1.0285	1.0338	1.0355	
	0.1921	0.1822	0.1651	0.1413	0.1116	0.0772	0.0395	0.0000	
	1.8345	1.7563	1.6862	1.6262	1.5780	1.5429	1.5215	1.5144	
	4.8477	4.8061	4.7685	4.7362	4.7101	4.6909	4.6792	4.6753	
0.70	1.5497	1.5694	1.5876	1.6037	1.6169	1.6267	1.6328	1.6348	
	0.9571	0.9742	0.9900	1.0038	1.0152	1.0237	1.0290	1.0308	
	0.1952	0.1851	0.1677	0.1434	0.1133	0.0783	0.0400	0.0000	
	1.8283	1.7504	1.6804	1.6205	1.5723	1.5372	1.5158	1.5087	
	4.8396	4.7978	4.7596	4.7263	4.6992	4.6791	4.6668	4.6627	
0.75	1.5540	1.5736	1.5917	1.6076	1.6207	1.6305	1.6365	1.6386	
	0.9518	0.9691	0.9850	0.9989	1.0104	1.0190	1.0243	1.0260	
	0.1981	0.1878	0.1700	0.1454	0.1148	0.0794	0.0405	0.0000	
	1.8217	1.7441	1.6742	1.6144	1.5663	1.5311	1.5098	1.5026	
	4.8305	4.7885	4.7496	4.7155	4.6874	4.6665	4.6536	4.6492	
0.80	1.5583	1.5777	1.5957	1.6116	1.6246	1.6343	1.6403	1.6423	
	0.9465	0.9640	0.9800	0.9941	1.0056	1.0143	1.0196	1.0214	
	0.2009	0.1903	0.1723	0.1473	0.1162	0.0803	0.0410	0.0000	
	1.8147	1.7374	1.6677	1.6080	1.5599	1.5248	1.5034	1.4962	
	4.8204	4.7782	4.7387	4.7038	4.6748	4.6531	4.6396	4.6351	
0.85	1.5627	1.5819	1.5998	1.6155	1.6285	1.6381	1.6441	1.6461	
	0.9413	0.9589	0.9751	0.9893	1.0009	1.0096	1.0149	1.0167	
	0.2035	0.1927	0.1744	0.1490	0.1176	0.0812	0.0415	0.0000	
	1.8073	1.7303	1.6608	1.6012	1.5532	1.5180	1.4966	1.4894	
	4.8094	4.7669	4.7269	4.6912	4.6613	4.6389	4.6249	4.6201	
0.90	1.5670	1.5861	1.6038	1.6195	1.6324	1.6420	1.6479	1.6499	
	0.9362	0.9539	0.9702	0.9845	0.9962	1.0049	1.0103	1.0121	
	0.2059	0.1950	0.1763	0.1506	0.1188	0.0821	0.0419	0.0000	
	1.7995	1.7228	1.6536	1.5941	1.5461	1.5109	1.4895	1.4823	
	4.7973	4.7547	4.7142	4.6777	4.6471	4.6238	4.6093	4.6044	
0.95	1.5713	1.5903	1.6079	1.6234	1.6362	1.6458	1.6517	1.6537	
	0.9310	0.9489	0.9653	0.9797	0.9915	1.0003	1.0057	1.0075	
	0.2082	0.1971	0.1782	0.1522	0.1200	0.0829	0.0423	0.0000	
	1.7913	1.7150	1.6459	1.5866	1.5386	1.5035	1.4821	1.4749	
	4.7843	4.7416	4.7006	4.6634	4.6319	4.6080	4.5930	4.5879	
1.00	1.5756	1.5945	1.6120	1.6274	1.6401	1.6496	1.6555	1.6575	
	0.9259	0.9439	0.9605	0.9749	0.9868	0.9956	1.0011	1.0029	
	0.2104	0.1991	0.1799	0.1536	0.1211	0.0836	0.0427	0.0000	
	1.7827	1.7067	1.6379	1.5787	1.5308	1.4957	1.4743	1.4671	
	4.7703	4.7275	4.6861	4.6482	4.6160	4.5913	4.5759	4.5706	
F_x	0.8450	0.8429	0.8407	0.8387	0.8368	0.8354	0.8345	0.8342	

$$M_{\infty} = 7, \beta_k = 35^\circ, \alpha = 10^\circ$$

ξ	θ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.00	1.2185	1.2203	1.2259	1.2349	1.2474	1.2628	1.2809	1.3011	1.3228
	0.8532	0.8545	0.8584	0.8647	0.8734	0.8843	0.8969	0.9111	0.9262
	0.0000	0.0417	0.0821	0.1199	0.1538	0.1827	0.2053	0.2204	0.2270
	2.9106	2.8879	2.8211	2.7147	2.5758	2.4131	2.2359	2.0541	1.8763
	5.3795	5.3493	5.2607	5.1183	4.9298	4.7052	4.4559	4.1939	3.9313
0.05	1.2245	1.2279	1.2380	1.2544	1.2770	1.3051	1.3382	1.3754	1.4159
	0.8446	0.8470	0.8542	0.8660	0.8821	0.9022	0.9258	0.9524	0.9812
	0.0000	0.0466	0.0916	0.1334	0.1706	0.2016	0.2253	0.2405	0.2464
	2.9101	2.8874	2.8209	2.7149	2.5764	2.4140	2.2372	2.0555	1.8778
	5.3787	5.3575	5.2951	5.1950	5.0641	4.9108	4.7450	4.5783	4.4233
0.10	1.2306	1.2341	1.2447	1.2621	1.2857	1.3150	1.3494	1.3877	1.4291
	0.8361	0.8387	0.8464	0.8591	0.8763	0.8977	0.9227	0.9505	0.9804
	0.0000	0.0501	0.0984	0.1433	0.1833	0.2168	0.2425	0.2594	0.2667
	2.9085	2.8859	2.8197	2.7142	2.5763	2.4144	2.2381	2.0566	1.8790
	5.3766	5.3570	5.2995	5.2078	5.0873	4.9460	4.7932	4.6396	4.4966
0.15	1.2366	1.2403	1.2511	1.2690	1.2932	1.3232	1.3582	1.3971	1.4389
	0.8276	0.8304	0.8385	0.8518	0.8698	0.8921	0.9180	0.9467	0.9774
	0.0000	0.0529	0.1040	0.1515	0.1938	0.2293	0.2568	0.2750	0.2834
	2.9059	2.8834	2.8176	2.7127	2.5754	2.4142	2.2384	2.0574	1.8799
	5.3732	5.3548	5.3011	5.2154	5.1028	4.9703	4.8268	4.6822	4.5471
0.20	1.2427	1.2464	1.2575	1.2756	1.3002	1.3306	1.3659	1.4051	1.4470
	0.8193	0.8222	0.8306	0.8444	0.8631	0.8861	0.9127	0.9422	0.9734
	0.0000	0.0554	0.1089	0.1587	0.2030	0.2403	0.2692	0.2886	0.2977
	2.9023	2.8800	2.8145	2.7103	2.5737	2.4133	2.2382	2.0576	1.8805
	5.3684	5.3511	5.3006	5.2200	5.1139	4.9889	4.8530	4.7156	4.5865
0.25	1.2488	1.2525	1.2637	1.2820	1.3068	1.3374	1.3729	1.4122	1.4541
	0.8111	0.8140	0.8227	0.8370	0.8562	0.8799	0.9072	0.9372	0.9690
	0.0000	0.0577	0.1133	0.1652	0.2113	0.2502	0.2804	0.3007	0.3104
	2.8977	2.8755	2.8106	2.7070	2.5714	2.4118	2.2374	2.0575	1.8807
	5.3623	5.3461	5.2985	5.2223	5.1220	5.0035	4.8744	4.7431	4.6190
0.30	1.2548	1.2586	1.2699	1.2882	1.3131	1.3439	1.3795	1.4188	1.4607
	0.8030	0.8060	0.8150	0.8296	0.8493	0.8736	0.9015	0.9320	0.9642
	0.0000	0.0597	0.1174	0.1711	0.2189	0.2592	0.2905	0.3117	0.3219
	2.8921	2.8702	2.8058	2.7030	2.5683	2.4097	2.2362	2.0569	1.8805
	5.3549	5.3397	5.2947	5.2227	5.1277	5.0152	4.8922	4.7665	4.6467
0.35	1.2609	1.2647	1.2760	1.2943	1.3193	1.3501	1.3857	1.4250	1.4667
	0.7949	0.7980	0.8072	0.8222	0.8424	0.8672	0.8956	0.9267	0.9594
	0.0000	0.0617	0.1212	0.1766	0.2260	0.2676	0.2999	0.3218	0.3325
	2.8857	2.8639	2.8001	2.6981	2.5645	2.4069	2.2344	2.0559	1.8801
	5.3463	5.3320	5.2896	5.2214	5.1314	5.0246	4.9072	4.7865	4.6706
0.40	1.2670	1.2708	1.2820	1.3004	1.3254	1.3561	1.3917	1.4309	1.4724
	0.7870	0.7902	0.7996	0.8149	0.8356	0.8609	0.8898	0.9214	0.9544
	0.0000	0.0635	0.1248	0.1818	0.2326	0.2754	0.3087	0.3312	0.3421
	2.8783	2.8568	2.7935	2.6925	2.5600	2.4036	2.2322	2.0545	1.8792
	5.3366	5.3230	5.2831	5.2187	5.1334	5.0318	4.9198	4.8039	4.6915
0.45	1.2730	1.2768	1.2881	1.3064	1.3313	1.3620	1.3974	1.4365	1.4778
	0.7792	0.7824	0.7920	0.8077	0.8288	0.8545	0.8839	0.9160	0.9494
	0.0000	0.0652	0.1281	0.1867	0.2388	0.2827	0.3169	0.3400	0.3511
	2.8700	2.8487	2.7862	2.6862	2.5548	2.3997	2.2294	2.0527	1.8780
	5.3257	5.3129	5.2753	5.2145	5.1338	5.0373	4.9304	4.8190	4.7099
0.50	1.2791	1.2829	1.2941	1.3124	1.3372	1.3677	1.4030	1.4419	1.4830
	0.7714	0.7747	0.7845	0.8005	0.8220	0.8482	0.8781	0.9106	0.9444
	0.0000	0.0668	0.1313	0.1913	0.2447	0.2897	0.3246	0.3482	0.3595
	2.8609	2.8399	2.7780	2.6790	2.5489	2.3952	2.2261	2.0505	1.8765
	5.3136	5.3016	5.2662	5.2090	5.1327	5.0412	4.9391	4.8320	4.7261

$$M_{\infty} = 7, \beta_{\kappa} = 35^{\circ}, \alpha = 10^{\circ}$$

σ	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.55	1.2851 0.7637 0.0000 2.8510 5.3004	1.2889 0.7671 0.0684 2.8302 5.2891	1.3001 0.7771 0.1344 2.7690 5.2560	1.3183 0.7934 0.1957 2.6712 5.2022	1.3429 0.8152 0.2503 2.5424 5.1302	1.3733 0.8419 0.2962 2.3901 5.0435	1.4084 0.8723 0.3319 2.2224 4.9462	1.4471 0.9052 0.3559 2.0479 4.8433	1.4880 0.9394 0.3674 1.8747 4.7403
0.60	1.2912 0.7561 0.0000 2.8402 5.2861	1.2950 0.7595 0.0698 2.8197 5.2756	1.3060 0.7697 0.1373 2.7593 5.2446	1.3241 0.7863 0.1999 2.6626 5.1941	1.3486 0.8086 0.2556 2.5353 5.1264	1.3788 0.8356 0.3025 2.3845 5.0444	1.4137 0.8665 0.3388 2.2182 4.9518	1.4521 0.8998 0.3632 2.0448 4.8529	1.4928 0.9345 0.3748 1.8725 4.7528
0.65	1.2973 0.7485 0.0000 2.8287 5.2707	1.3010 0.7520 0.0713 2.8084 5.2609	1.3120 0.7624 0.1400 2.7488 5.2320	1.3300 0.7793 0.2039 2.6533 5.1849	1.3543 0.8019 0.2607 2.5275 5.1213	1.3843 0.8294 0.3084 2.3783 5.0440	1.4189 0.8607 0.3454 2.2135 4.9559	1.4570 0.8945 0.3702 2.0414 4.8610	1.4974 0.9295 0.3818 1.8700 4.7636
0.70	1.3034 0.7410 0.0000 2.8163 5.2542	1.3071 0.7446 0.0726 2.7963 5.2452	1.3180 0.7552 0.1427 2.7375 5.2183	1.3358 0.7723 0.2078 2.6434 5.1744	1.3599 0.7953 0.2656 2.5191 5.1150	1.3896 0.8232 0.3141 2.3715 5.0422	1.4240 0.8550 0.3516 2.2084 4.9587	1.4619 0.8892 0.3767 2.0376 4.8677	1.5019 0.9246 0.3884 1.8672 4.7730
0.75	1.3095 0.7336 0.0000 2.8031 5.2366	1.3132 0.7372 0.0739 2.7834 5.2283	1.3240 0.7479 0.1453 2.7255 5.2035	1.3416 0.7654 0.2115 2.6327 5.1628	1.3655 0.7887 0.2703 2.5101 5.1075	1.3950 0.8171 0.3196 2.3643 5.0393	1.4290 0.8493 0.3576 2.2028 4.9602	1.4666 0.8839 0.3830 2.0334 4.8730	1.5063 0.9197 0.3947 1.8641 4.7810
0.80	1.3157 0.7261 0.0000 2.7891 5.2180	1.3193 0.7298 0.0752 2.7697 5.2103	1.3300 0.7408 0.1477 2.7127 5.1875	1.3474 0.7585 0.2150 2.6213 5.1501	1.3711 0.7822 0.2748 2.5004 5.0988	1.4003 0.8110 0.3248 2.3564 5.0351	1.4340 0.8436 0.3634 2.1967 4.9602	1.4712 0.8787 0.3890 2.0289 4.8771	1.5106 0.9149 0.4006 1.8606 4.7877
0.85	1.3219 0.7188 0.0000 2.7743 5.1982	1.3255 0.7225 0.0764 2.7553 5.1913	1.3360 0.7336 0.1501 2.6992 5.1705	1.3533 0.7516 0.2185 2.6092 5.1362	1.3767 0.7757 0.2791 2.4901 5.0890	1.4055 0.8049 0.3299 2.3480 5.0297	1.4389 0.8380 0.3689 2.1901 4.9598	1.4758 0.8735 0.3947 2.0239 4.8799	1.5149 0.9101 0.4063 1.8569 4.7932
0.90	1.3281 0.7114 0.0000 2.7588 5.1774	1.3316 0.7152 0.0776 2.7401 5.1711	1.3421 0.7265 0.1524 2.6850 5.1523	1.3591 0.7448 0.2218 2.5964 5.1212	1.3822 0.7692 0.2833 2.4791 5.0780	1.4107 0.7988 0.3347 2.3391 5.0231	1.4438 0.8323 0.3742 2.1831 4.9572	1.4803 0.8683 0.4002 2.0186 4.8815	1.5190 0.9053 0.4117 1.8528 4.7975
0.95	1.3344 0.7041 0.0000 2.7424 5.1554	1.3379 0.7079 0.0787 2.7240 5.1488	1.3482 0.7194 0.1546 2.6699 5.1331	1.3649 0.7379 0.2250 2.5830 5.1051	1.3878 0.7628 0.2873 2.4676 5.0658	1.4159 0.7928 0.3394 2.3296 5.0153	1.4486 0.8268 0.3793 2.1756 4.9539	1.4847 0.8632 0.4055 2.0129 4.8819	1.5231 0.9006 0.4169 1.8484 4.8006
1.00	1.3408 0.6967 0.0000 2.7252 5.1323	1.3442 0.7007 0.0798 2.7072 5.1274	1.3543 0.7123 0.1568 2.6542 5.1126	1.3708 0.7311 0.2281 2.5688 5.0877	1.3933 0.7563 0.2912 2.4553 5.0524	1.4211 0.7868 0.3439 2.3195 5.0064	1.4534 0.8212 0.3842 2.1677 4.9493	1.4891 0.8581 0.4105 2.0067 4.8812	1.5271 0.8959 0.4218 1.8437 4.8026
F_{π}	0.8686	0.8685	0.8684	0.8683	0.8674	0.8665	0.8651	0.8630	0.8603

$$M_{\infty} = 7, \beta_{\kappa} = 35^{\circ}, \alpha = 10^{\circ}$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.00	1.3450 0.9418 0.2240 1.7103 3.6797	1.3670 0.9572 0.2109 1.5621 3.4488	1.3877 0.9717 0.1879 1.4356 3.2470	1.4058 0.9844 0.1567 1.3332 3.0799	1.4205 0.9946 0.1201 1.2553 2.9503	1.4311 1.0021 0.0811 1.2011 2.8586	1.4375 1.0066 0.0409 1.1692 2.8043	1.6703 1.1696 0.0000 1.1587 4.4034	1.4397 1.0081 0.0000 1.1587 2.7862
0.05	1.4587 1.0116 0.2426 1.7117 4.2935	1.5025 1.0427 0.2390 1.5631 4.2021	1.5460 1.0735 0.2062 1.4364 4.1608	1.5870 1.1024 0.1756 1.3337 4.1741	1.6228 1.1277 0.1386 1.2555 4.2329	1.6507 1.1473 0.0963 1.2011 4.3117	1.6683 1.1597 0.0495 1.1691 4.3770	1.6743 1.1638 0.0000 1.1585 4.4023	
0.10	1.4723 1.0116 0.2639 1.7128 4.3763	1.5160 1.0429 0.2510 1.5641 4.2901	1.5584 1.0732 0.2284 1.4370 4.2470	1.5976 1.1011 0.1968 1.3339 4.2490	1.6311 1.1250 0.1570 1.2554 4.2867	1.6567 1.1432 0.1098 1.2007 4.3397	1.6727 1.1546 0.0567 1.1685 4.3836	1.6781 1.1585 0.0000 1.1578 4.4005	
0.15	1.4821 1.0090 0.2812 1.7137 4.4324	1.5255 1.0405 0.2685 1.5648 4.3484	1.5671 1.0706 0.2455 1.4374 4.3024	1.6051 1.0980 0.2125 1.3339 4.2954	1.6372 1.1211 0.1702 1.2550 4.3186	1.6616 1.1387 0.1193 1.1999 4.3551	1.6766 1.1497 0.0616 1.1675 4.3859	1.6818 1.1534 0.0000 1.1567 4.3976	
0.20	1.4902 1.0054 0.2960 1.7143 4.4758	1.5332 1.0371 0.2832 1.5652 4.3927	1.5742 1.0671 0.2595 1.4375 4.3436	1.6113 1.0941 0.2252 1.3336 4.3288	1.6425 1.1169 0.1806 1.2543 4.3406	1.6659 1.1341 0.1266 1.1988 4.3645	1.6804 1.1449 0.0654 1.1662 4.3857	1.6853 1.1485 0.0000 1.1553 4.3938	
0.25	1.4972 1.0013 0.3090 1.7146 4.5114	1.5399 1.0331 0.2960 1.5654 4.4285	1.5804 1.0631 0.2716 1.4373 4.3761	1.6168 1.0900 0.2359 1.3330 4.3544	1.6472 1.1125 0.1892 1.2533 4.3565	1.6699 1.1296 0.1326 1.1975 4.3703	1.6839 1.1403 0.0684 1.1646 4.3838	1.6887 1.1438 0.0000 1.1536 4.3891	
0.30	1.5036 0.9969 0.3206 1.7146 4.5415	1.5459 1.0289 0.3073 1.5652 4.4585	1.5859 1.0589 0.2821 1.4369 4.4028	1.6218 1.0857 0.2450 1.3322 4.3747	1.6515 1.1082 0.1965 1.2520 4.3683	1.6738 1.1251 0.1376 1.1958 4.3735	1.6874 1.1357 0.0710 1.1626 4.3807	1.6921 1.1393 0.0000 1.1516 4.3836	
0.35	1.5094 0.9924 0.3311 1.7143 4.5674	1.5515 1.0245 0.3175 1.5649 4.4840	1.5910 1.0546 0.2915 1.4362 4.4251	1.6264 1.0814 0.2531 1.3311 4.3911	1.6556 1.1038 0.2028 1.2504 4.3770	1.6774 1.1207 0.1420 1.1938 4.3747	1.6908 1.1313 0.0732 1.1604 4.3764	1.6953 1.1349 0.0000 1.1493 4.3773	
0.40	1.5149 0.9877 0.3408 1.7137 4.5900	1.5566 1.0201 0.3268 1.5642 4.5060	1.5958 1.0502 0.2999 1.4353 4.4439	1.6307 1.0771 0.2603 1.3298 4.4043	1.6595 1.0995 0.2084 1.2486 4.3833	1.6810 1.1164 0.1458 1.1916 4.3742	1.6941 1.1270 0.0751 1.1579 4.3711	1.6986 1.1306 0.0000 1.1467 4.3703	
0.45	1.5200 0.9831 0.3497 1.7129 4.6099	1.5615 1.0156 0.3352 1.5634 4.5252	1.6003 1.0459 0.3075 1.4342 4.4600	1.6348 1.0728 0.2667 1.3282 4.4151	1.6633 1.0952 0.2134 1.2466 4.3876	1.6844 1.1122 0.1491 1.1891 4.3724	1.6973 1.1228 0.0767 1.1552 4.3649	1.7017 1.1264 0.0000 1.1439 4.3626	
0.50	1.5250 0.9784 0.3578 1.7117 4.6274	1.5661 1.0111 0.3430 1.5622 4.5419	1.6046 1.0415 0.3145 1.4328 4.4736	1.6388 1.0685 0.2725 1.3264 4.4236	1.6669 1.0910 0.2178 1.2443 4.3901	1.6878 1.1081 0.1521 1.1864 4.3693	1.7005 1.1187 0.0782 1.1522 4.3579	1.7049 1.1223 0.0000 1.1408 4.3542	

$$M_{\infty} = 7, \beta_K = 35^\circ, \alpha = 10^\circ$$

ξ	θ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.55	1.5297	1.5705	1.6087	1.6426	1.6704	1.6910	1.7037	1.7080	
	0.9737	1.0067	1.0372	1.0643	1.0869	1.1040	1.1146	1.1182	
	0.3656	0.3502	0.3208	0.2778	0.2218	0.1547	0.0795	0.0000	
	1.7103	1.5608	1.4311	1.3243	1.2417	1.1835	1.1490	1.1374	
	4.6429	4.5566	4.4852	4.4304	4.3912	4.3652	4.3501	4.3451	
0.60	1.5342	1.5747	1.6127	1.6462	1.6738	1.6943	1.7068	1.7110	
	0.9690	1.0022	1.0330	1.0602	1.0828	1.1000	1.1107	1.1143	
	0.3728	0.3568	0.3267	0.2826	0.2255	0.1572	0.0807	0.0000	
	1.7085	1.5592	1.4293	1.3220	1.2390	1.1803	1.1455	1.1339	
	4.6566	4.5693	4.4949	4.4355	4.3909	4.3600	4.3416	4.3354	
0.65	1.5385	1.5788	1.6165	1.6498	1.6772	1.6975	1.7099	1.7141	
	0.9644	0.9979	1.0288	1.0561	1.0788	1.0960	1.1067	1.1104	
	0.3796	0.3631	0.3322	0.2871	0.2288	0.1593	0.0818	0.0000	
	1.7066	1.5573	1.4272	1.3195	1.2360	1.1769	1.1418	1.1301	
	4.6685	4.5804	4.5031	4.4392	4.3895	4.3539	4.3324	4.3250	
0.70	1.5428	1.5828	1.6202	1.6533	1.6805	1.7006	1.7129	1.7171	
	0.9598	0.9935	1.0246	1.0520	1.0749	1.0921	1.1029	1.1065	
	0.3858	0.3689	0.3372	0.2912	0.2318	0.1613	0.0828	0.0000	
	1.7043	1.5552	1.4249	1.3168	1.2328	1.1732	1.1379	1.1261	
	4.6790	4.5899	4.5098	4.4415	4.3869	4.3469	4.3224	4.3140	
0.75	1.5469	1.5866	1.6238	1.6567	1.6837	1.7037	1.7160	1.7201	
	0.9553	0.9892	1.0205	1.0481	1.0710	1.0882	1.0991	1.1027	
	0.3919	0.3743	0.3419	0.2949	0.2346	0.1631	0.0837	0.0000	
	1.7018	1.5529	1.4224	1.3139	1.2294	1.1694	1.1337	1.1218	
	4.6880	4.5981	4.5151	4.4426	4.3833	4.3391	4.3118	4.3024	
0.80	1.5509	1.5903	1.6273	1.6600	1.6869	1.7068	1.7190	1.7231	
	0.9507	0.9850	1.0164	1.0441	1.0671	1.0844	1.0953	1.0989	
	0.3976	0.3795	0.3463	0.2984	0.2372	0.1648	0.0845	0.0000	
	1.6991	1.5504	1.4197	1.3108	1.2258	1.1653	1.1293	1.1173	
	4.6958	4.6049	4.5192	4.4427	4.3788	4.3305	4.3004	4.2901	
0.85	1.5548	1.5940	1.6307	1.6633	1.6900	1.7099	1.7220	1.7262	
	0.9463	0.9808	1.0124	1.0402	1.0633	1.0807	1.0915	1.0952	
	0.4029	0.3843	0.3504	0.3017	0.2396	0.1663	0.0852	0.0000	
	1.6960	1.5476	1.4168	1.3074	1.2219	1.1610	1.1247	1.1126	
	4.7023	4.6106	4.5222	4.4416	4.3733	4.3211	4.2884	4.2772	
0.90	1.5586	1.5976	1.6341	1.6665	1.6932	1.7130	1.7251	1.7292	
	0.9419	0.9766	1.0085	1.0364	1.0595	1.0769	1.0878	1.0915	
	0.4080	0.3888	0.3542	0.3047	0.2417	0.1677	0.0859	0.0000	
	1.6928	1.5446	1.4137	1.3039	1.2179	1.1565	1.1199	1.1077	
	4.7076	4.6151	4.5241	4.4396	4.3670	4.3110	4.2757	4.2636	
0.95	1.5624	1.6011	1.6374	1.6697	1.6963	1.7160	1.7281	1.7322	
	0.9375	0.9725	1.0046	1.0326	1.0558	1.0732	1.0841	1.0877	
	0.4129	0.3931	0.3578	0.3075	0.2438	0.1690	0.0865	0.0000	
	1.6892	1.5414	1.4103	1.3002	1.2136	1.1517	1.1148	1.1025	
	4.7118	4.6185	4.5249	4.4366	4.3598	4.3001	4.2623	4.2493	
1.00	1.5661	1.6045	1.6407	1.6728	1.6994	1.7191	1.7312	1.7353	
	0.9332	0.9685	1.0007	1.0289	1.0521	1.0695	1.0804	1.0840	
	0.4175	0.3972	0.3611	0.3101	0.2456	0.1702	0.0871	0.0000	
	1.6854	1.5380	1.4068	1.2962	1.2091	1.1468	1.1095	1.0971	
	4.7149	4.6209	4.5248	4.4328	4.3518	4.2885	4.2483	4.2344	
F_x	0.8568	0.8524	0.8474	0.8419	0.8369	0.8326	0.8297	0.8287	

$$M_{\infty} = 7, \beta_{\kappa} = 35^{\circ}, \alpha = 15^{\circ}$$

δ	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.00	1.0708 0.7497 0.0000 3.3702 5.4972	1.0737 0.7518 0.0648 3.3327 5.4534	1.0826 0.7580 0.1279 3.2231 5.3248	1.0972 0.7682 0.1877 3.0501 5.1190	1.1172 0.7823 0.2423 2.8267 4.8483	1.1423 0.7998 0.2903 2.5688 4.5281	1.1719 0.8205 0.3299 2.2935 4.1759	1.2052 0.8439 0.3595 2.0170 3.8098	1.2415 0.8693 0.3772 1.7535 3.4472
0.05	1.0775 0.7401 0.0000 3.3695 5.4965	1.0820 0.7434 0.0700 3.3323 5.4608	1.0956 0.7532 0.1377 3.2233 5.3561	1.1179 0.7692 0.2012 3.0512 5.1884	1.1484 0.7911 0.2582 2.8289 4.9676	1.1864 0.8184 0.3068 2.5720 4.7064	1.2311 0.8505 0.3452 2.2975 4.4199	1.2815 0.8867 0.3716 2.0214 4.1246	1.3367 0.9262 0.3844 1.7579 3.8380
0.10	1.0843 0.7306 0.0000 3.3676 5.4942	1.0892 0.7342 0.0739 3.3306 5.4612	1.1037 0.7449 0.1455 3.2224 5.3641	1.1275 0.7625 0.2123 3.0515 5.2085	1.1600 0.7865 0.2722 2.8304 5.0034	1.2004 0.8162 0.3231 2.5747 4.7604	1.2477 0.8510 0.3630 2.3012 4.4937	1.3009 0.8900 0.3902 2.0256 4.2186	1.3587 0.9322 0.4035 1.7622 3.9524
0.15	1.0911 0.7212 0.0000 3.3645 5.4905	1.0962 0.7250 0.0774 3.3278 5.4597	1.1112 0.7365 0.1523 3.2205 5.3687	1.1359 0.7552 0.2222 3.0508 5.2228	1.1696 0.7807 0.2847 2.8311 5.0302	1.2114 0.8122 0.3376 2.5769 4.8016	1.2602 0.8489 0.3791 2.3045 4.5502	1.3149 0.8898 0.4075 2.0297 4.2906	1.3741 0.9337 0.4215 1.7666 4.0390
0.20	1.0979 0.7119 0.0000 3.3601 5.4855	1.1031 0.7159 0.0806 3.3237 5.4564	1.1185 0.7280 0.1585 3.2174 5.3709	1.1438 0.7477 0.2312 3.0491 5.2336	1.1782 0.7744 0.2961 2.8312 5.0520	1.2209 0.8074 0.3511 2.5786 4.8360	1.2707 0.8456 0.3941 2.3075 4.5978	1.3262 0.8880 0.4236 2.0336 4.3512	1.3862 0.9333 0.4383 1.7708 4.1117
0.25	1.1047 0.7027 0.0000 3.3546 5.4790	1.1100 0.7069 0.0836 3.3186 5.4517	1.1257 0.7195 0.1643 3.2133 5.3712	1.1514 0.7400 0.2396 3.0466 5.2418	1.1863 0.7678 0.3068 2.8304 5.0703	1.2295 0.8021 0.3636 2.5796 4.8658	1.2799 0.8416 0.4081 2.3101 4.6397	1.3360 0.8853 0.4387 2.0373 4.4048	1.3964 0.9317 0.4540 1.7750 4.1759
0.30	1.1115 0.6936 0.0000 3.3479 5.4712	1.1169 0.6980 0.0864 3.3123 5.4455	1.1327 0.7110 0.1698 3.2081 5.3698	1.1587 0.7323 0.2475 3.0431 5.2478	1.1939 0.7611 0.3168 2.8290 5.0859	1.2375 0.7965 0.3755 2.5802 4.8923	1.2882 0.8373 0.4213 2.3124 4.6775	1.3446 0.8821 0.4529 2.0408 4.4535	1.4052 0.9294 0.4688 1.7791 4.2340
0.35	1.1184 0.6846 0.0000 3.3401 5.4621	1.1237 0.6892 0.0890 3.3049 5.4380	1.1397 0.7027 0.1750 3.2020 5.3668	1.1658 0.7246 0.2550 3.0388 5.2520	1.2012 0.7543 0.3264 2.8268 5.0993	1.2450 0.7908 0.3867 2.5802 4.9161	1.2958 0.8326 0.4339 2.3143 4.7121	1.3524 0.8785 0.4663 2.0441 4.4983	1.4130 0.9267 0.4828 1.7832 4.2877
0.40	1.1252 0.6758 0.0000 3.3312 5.4517	1.1306 0.6804 0.0915 3.2965 5.4291	1.1466 0.6944 0.1800 3.1949 5.3624	1.1727 0.7170 0.2622 3.0336 5.2546	1.2082 0.7475 0.3356 2.8239 5.1107	1.2520 0.7849 0.3975 2.5796 4.9376	1.3030 0.8278 0.4459 2.3158 4.7440	1.3595 0.8746 0.4791 2.0472 4.5401	1.4200 0.9236 0.4961 1.7872 4.3379
0.45	1.1320 0.6670 0.0000 3.3212 5.4400	1.1374 0.6718 0.0940 3.2870 5.4190	1.1534 0.6861 0.1847 3.1868 5.3566	1.1795 0.7094 0.2691 3.0276 5.2556	1.2150 0.7407 0.3443 2.8204 5.1204	1.2588 0.7790 0.4078 2.5786 4.9572	1.3097 0.8229 0.4573 2.3170 4.7738	1.3661 0.8706 0.4914 2.0501 4.5795	1.4264 0.9204 0.5087 1.7911 4.3851
0.50	1.1389 0.6583 0.0000 3.3102 5.4272	1.1443 0.6632 0.0963 3.2765 5.4075	1.1602 0.6779 0.1893 3.1777 5.3494	1.1863 0.7018 0.2758 3.0207 5.2551	1.2216 0.7359 0.3528 2.8161 5.1285	1.2653 0.7731 0.4177 2.5770 4.9750	1.3160 0.8179 0.4684 2.3178 4.8016	1.3722 0.8665 0.5031 2.0528 4.6167	1.4323 0.9170 0.5207 1.7949 4.4300

$$M_{\infty} = 7, \beta_{\infty} = 35^{\circ}, \alpha = 15^{\circ}$$

ξ	θ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.55	1.1458 0.6497 0.0000 3.2982 5.4131	1.1512 0.6548 0.0986 3.2650 5.3949	1.1670 0.6698 0.1938 3.1677 5.3409	1.1929 0.6942 0.2822 3.0130 5.2532	1.2281 0.7271 0.3609 2.8112 5.1352	1.2716 0.7672 0.4273 2.5749 4.9913	1.3220 0.8128 0.4789 2.3183 4.8278	1.3780 0.8622 0.5143 2.0553 4.6520	1.4378 0.9135 0.5321 1.7987 4.4729
0.60	1.1527 0.6411 0.0000 3.2852 5.3978	1.1580 0.6463 0.1008 3.2525 5.3810	1.1737 0.6617 0.1981 3.1568 5.3312	1.1995 0.6867 0.2884 3.0045 5.2500	1.2345 0.7203 0.3688 2.8055 5.1403	1.2777 0.7612 0.4365 2.5723 5.0060	1.3278 0.8077 0.4892 2.3184 4.8523	1.3834 0.8580 0.5251 2.0576 4.6857	1.4428 0.9099 0.5431 1.8024 4.5139
0.65	1.1596 0.6327 0.0000 3.2712 5.3814	1.1648 0.6380 0.1029 3.2391 5.3660	1.1805 0.6537 0.2022 3.1451 5.3202	1.2060 0.6793 0.2945 2.9952 5.2455	1.2407 0.7136 0.3765 2.7993 5.1441	1.2836 0.7553 0.4454 2.5692 5.0193	1.3333 0.8026 0.4990 2.3182 4.8754	1.3885 0.8537 0.5355 2.0597 4.7178	1.4475 0.9063 0.5537 1.8061 4.5534
0.70	1.1665 0.6243 0.0000 3.2562 5.3637	1.1717 0.6297 0.1050 3.2247 5.3497	1.1872 0.6458 0.2063 3.1324 5.3081	1.2125 0.6718 0.3003 2.9851 5.2398	1.2469 0.7068 0.3839 2.7923 5.1467	1.2893 0.7493 0.4541 2.5655 5.0313	1.3386 0.7975 0.5086 2.3177 4.8971	1.3933 0.8494 0.5456 2.0617 4.7486	1.4519 0.9027 0.5638 1.8097 4.5914
0.75	1.1735 0.6159 0.0000 3.2402 5.3449	1.1787 0.6215 0.1070 3.2093 5.3323	1.1940 0.6379 0.2102 3.1188 5.2947	1.2190 0.6645 0.3060 2.9742 5.2328	1.2530 0.7001 0.3911 2.7847 5.1479	1.2950 0.7434 0.4625 2.5614 5.0419	1.3438 0.7924 0.5178 2.3167 4.9175	1.3980 0.8451 0.5552 2.0634 4.7781	1.4560 0.8991 0.5735 1.8133 4.6281
0.80	1.1805 0.6076 0.0000 3.2232 5.3249	1.1856 0.6133 0.1090 3.1930 5.3137	1.2007 0.6300 0.2141 3.1043 5.2800	1.2254 0.6571 0.3116 2.9625 5.2245	1.2590 0.6934 0.3981 2.7764 5.1479	1.3005 0.7375 0.4707 2.5567 5.0514	1.3487 0.7873 0.5268 2.3155 4.9367	1.4024 0.8408 0.5646 2.0649 4.8064	1.4599 0.8954 0.5828 1.8168 4.6637
0.85	1.1876 0.5993 0.0000 3.2053 5.3037	1.1926 0.6051 0.1109 3.1758 5.2938	1.2075 0.6221 0.2178 3.0889 5.2642	1.2319 0.6498 0.3170 2.9500 5.2150	1.2650 0.6868 0.4049 2.7674 5.1466	1.3059 0.7316 0.4786 2.5515 5.0596	1.3536 0.7822 0.5355 2.3138 4.9547	1.4066 0.8365 0.5737 2.0663 4.8336	1.4636 0.8919 0.5919 1.8202 4.6981
0.90	1.1947 0.5911 0.0000 3.1864 5.2814	1.1996 0.5969 0.1127 3.1575 5.2728	1.2143 0.6143 0.2214 3.0726 5.2472	1.2383 0.6424 0.3222 2.9367 5.2043	1.2709 0.6801 0.4116 2.7578 5.1441	1.3113 0.7257 0.4864 2.5458 5.0665	1.3583 0.7771 0.5440 2.3118 4.9720	1.4107 0.8322 0.5825 2.0674 4.8596	1.4671 0.8883 0.6006 1.8236 4.7316
0.95	1.2019 0.5828 0.0000 3.1665 5.2578	1.2067 0.5888 0.1146 3.1383 5.2506	1.2211 0.6065 0.2250 3.0554 5.2289	1.2447 0.6351 0.3274 2.9226 5.1923	1.2768 0.6735 0.4181 2.7474 5.1404	1.3165 0.7198 0.4939 2.5395 5.0723	1.3629 0.7721 0.5522 2.3094 4.9873	1.4146 0.8279 0.5910 2.0684 4.8847	1.4703 0.8847 0.6090 1.8269 4.7641
1.00	1.2091 0.5746 0.0000 3.1457 5.2331	1.2139 0.5807 0.1163 3.1182 5.2272	1.2280 0.5987 0.2285 3.0373 5.2094	1.2512 0.6278 0.3324 2.9076 5.1791	1.2827 0.6668 0.4244 2.7364 5.1353	1.3218 0.7139 0.5012 2.5326 5.0768	1.3674 0.7670 0.5602 2.3067 5.0018	1.4184 0.8236 0.5993 2.0691 4.9087	1.4735 0.8812 0.6171 1.8302 4.7956
F_x	0.8864	0.8865	0.8869	0.8873	0.8878	0.8882	0.8881	0.8874	0.8855

$$M_{\infty} = 7, \beta_{\kappa} = 35^{\circ}, \alpha = 15^{\circ}$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.00	1.2796 0.8960 0.3811 1.5142 3.1042	1.3183 0.9231 0.3686 1.3071 2.7946	1.3560 0.9495 0.3371 1.1371 2.5299	1.3907 0.9738 0.2817 1.0065 2.3188	1.4194 0.9938 0.2026 0.9148 2.1658	1.4382 1.0070 0.1254 0.8568 2.0669	1.4482 1.0140 0.0611 0.8252 2.0121	1.7462 1.2227 0.0000 0.8150 3.9185	1.4514 1.0163 0.0000 0.8150 1.9943
0.05	1.3955 0.9682 0.3821 1.5182 3.5786	1.4571 1.0121 0.3636 1.3104 3.3677	1.5205 1.0572 0.3276 1.1395 3.2288	1.5851 1.1029 0.2747 1.0080 3.1983	1.6493 1.1477 0.2125 0.9155 3.3308	1.7037 1.1854 0.1482 0.8571 3.5896	1.7382 1.2094 0.0780 0.8252 3.8254	1.7499 1.2174 0.0000 0.8148 3.9178	
0.10	1.4199 0.9766 0.4014 1.5222 3.7129	1.4831 1.0222 0.3833 1.3137 3.5212	1.5468 1.0678 0.3488 1.1420 3.3998	1.6094 1.1122 0.2992 1.0096 3.3813	1.6678 1.1529 0.2398 0.9162 3.4930	1.7146 1.1854 0.1715 0.8571 3.6877	1.7436 1.2059 0.0909 0.8248 3.8539	1.7532 1.2127 0.0000 0.8143 3.9160	
0.15	1.4363 0.9795 0.4200 1.5263 3.8130	1.5000 1.0260 0.4024 1.3172 3.6326	1.5632 1.0716 0.3688 1.1445 3.5193	1.6241 1.1148 0.3205 1.0111 3.5008	1.6790 1.1531 0.2606 0.9169 3.5915	1.7217 1.1831 0.1875 0.8570 3.7437	1.7477 1.2021 0.0992 0.8242 3.8683	1.7563 1.2084 0.0000 0.8135 3.9134	
0.20	1.4489 0.9801 0.4373 1.5304 3.8961	1.5127 1.0270 0.4201 1.3206 3.7233	1.5754 1.0725 0.3869 1.1471 3.6139	1.6347 1.1148 0.3388 1.0127 3.5910	1.6872 1.1515 0.2772 0.9175 3.6621	1.7272 1.1801 0.1996 0.8568 3.7815	1.7512 1.1983 0.1053 0.8234 3.8765	1.7592 1.2044 0.0000 0.8125 3.9099	
0.25	1.4593 0.9793 0.4534 1.5345 3.9688	1.5229 1.0266 0.4364 1.3242 3.8016	1.5850 1.0719 0.4032 1.1498 3.6933	1.6432 1.1134 0.3547 1.0143 3.6640	1.6937 1.1491 0.2909 0.9180 3.7166	1.7318 1.1768 0.2092 0.8564 3.8090	1.7544 1.1946 0.1100 0.8224 3.8810	1.7620 1.2006 0.0000 0.8113 3.9058	
0.30	1.4681 0.9777 0.4685 1.5386 4.0342	1.5315 1.0253 0.4515 1.3278 3.8711	1.5931 1.0704 0.4181 1.1525 3.7625	1.6502 1.1113 0.3686 1.0159 3.7256	1.6993 1.1462 0.3025 0.9184 3.7607	1.7358 1.1735 0.2171 0.8559 3.8298	1.7575 1.1910 0.1139 0.8212 3.8832	1.7647 1.1969 0.0000 0.8099 3.9011	
0.35	1.4758 0.9756 0.4827 1.5428 4.0944	1.5390 1.0234 0.4656 1.3315 3.9344	1.6000 1.0683 0.4316 1.1552 3.8241	1.6563 1.1088 0.3810 1.0174 3.7788	1.7041 1.1432 0.3125 0.9188 3.7974	1.7394 1.1701 0.2238 0.8552 3.8459	1.7603 1.1875 0.1170 0.8199 3.8835	1.7672 1.1935 0.0000 0.8084 3.8957	
0.40	1.4827 0.9731 0.4960 1.5469 4.1504	1.5455 1.0211 0.4786 1.3352 3.9927	1.6061 1.0659 0.4440 1.1579 3.8800	1.6616 1.1060 0.3920 1.0189 3.8258	1.7084 1.1400 0.3212 0.9190 3.8284	1.7428 1.1668 0.2294 0.8543 3.8585	1.7630 1.1841 0.1197 0.8184 3.8824	1.7698 1.1901 0.0000 0.8066 3.8898	
0.45	1.4889 0.9703 0.5086 1.5511 4.2031	1.5513 1.0186 0.4908 1.3389 4.0471	1.6114 1.0633 0.4554 1.1607 3.9312	1.6663 1.1031 0.4020 1.0205 3.8678	1.7123 1.1369 0.3289 0.9192 3.8551	1.7459 1.1635 0.2343 0.8534 3.8683	1.7656 1.1809 0.1220 0.8168 3.8802	1.7722 1.1869 0.0000 0.8048 3.8834	
0.50	1.4945 0.9674 0.5205 1.5553 4.2530	1.5566 1.0159 0.5023 1.3428 4.0982	1.6162 1.0606 0.4659 1.1636 3.9787	1.6706 1.1002 0.4109 1.0220 3.9057	1.7159 1.1338 0.3356 0.9193 3.8783	1.7488 1.1603 0.2385 0.8523 3.8759	1.7682 1.1777 0.1239 0.8150 3.8769	1.7746 1.1837 0.0000 0.8028 3.8764	

$$M_{\infty} = 7, \beta_{\kappa} = 35^{\circ}, \alpha = 15^{\circ}$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.55	1.4996 0.9644 0.5318 1.5596 4.3006	1.5613 1.0131 0.5130 1.3467 4.1466	1.6206 1.0578 0.4756 1.1665 4.0231	1.6744 1.0972 0.4191 1.0235 3.9404	1.7192 1.1307 0.3416 0.9193 3.8986	1.7516 1.1572 0.2422 0.8511 3.8817	1.7706 1.1746 0.1256 0.8131 3.8728	1.7770 1.1806 0.0000 0.8006 3.8690	
0.60	1.5043 0.9613 0.5426 1.5638 4.3461	1.5656 1.0103 0.5231 1.3506 4.1928	1.6245 1.0550 0.4846 1.1695 4.0648	1.6780 1.0943 0.4265 1.0250 3.9722	1.7223 1.1276 0.3470 0.9193 3.9165	1.7546 1.1541 0.2455 0.8498 3.8860	1.7731 1.1716 0.1271 0.8110 3.8680	1.7793 1.1776 0.0000 0.7983 3.8611	
0.65	1.5086 0.9582 0.5528 1.5681 4.3900	1.5696 1.0075 0.5326 1.3547 4.2369	1.6281 1.0523 0.4930 1.1725 4.1043	1.6812 1.0915 0.4333 1.0265 4.0017	1.7252 1.1247 0.3518 0.9192 3.9324	1.7569 1.1512 0.2484 0.8484 3.8889	1.7754 1.1686 0.1284 0.8088 3.8624	1.7816 1.1746 0.0000 0.7959 3.8526	
0.70	1.5125 0.9551 0.5626 1.5725 4.4322	1.5732 1.0047 0.5416 1.3588 4.2793	1.6314 1.0495 0.5008 1.1756 4.1418	1.6842 1.0887 0.4395 1.0281 4.0293	1.7279 1.1218 0.3561 0.9190 3.9467	1.7593 1.1482 0.2509 0.8469 3.8906	1.7778 1.1657 0.1296 0.8065 3.8561	1.7839 1.1717 0.0000 0.7933 3.8437	
0.75	1.5162 0.9521 0.5719 1.5769 4.4732	1.5765 1.0019 0.5501 1.3630 4.3202	1.6344 1.0469 0.5081 1.1788 4.1777	1.6870 1.0859 0.4452 1.0296 4.0551	1.7304 1.1190 0.3600 0.9189 3.9594	1.7617 1.1454 0.2532 0.8453 3.8914	1.7801 1.1628 0.1306 0.8041 3.8492	1.7862 1.1688 0.0000 0.7906 3.8343	
0.80	1.5196 0.9490 0.5808 1.5813 4.5129	1.5795 0.9992 0.5582 1.3674 4.3599	1.6372 1.0443 0.5149 1.1821 4.2122	1.6896 1.0833 0.4504 1.0313 4.0794	1.7329 1.1163 0.3635 0.9187 3.9709	1.7641 1.1426 0.2552 0.8436 3.8912	1.7824 1.1600 0.1315 0.8015 3.8417	1.7885 1.1660 0.0000 0.7877 3.8244	
0.85	1.5228 0.9460 0.5894 1.5858 4.5516	1.5823 0.9965 0.5658 1.3718 4.3983	1.6397 1.0417 0.5213 1.1855 4.2454	1.6919 1.0808 0.4552 1.0329 4.1025	1.7352 1.1137 0.3667 0.9184 3.9812	1.7664 1.1399 0.2570 0.8418 3.8902	1.7849 1.1572 0.1323 0.7988 3.8337	1.7908 1.1631 0.0000 0.7847 3.8140	
0.90	1.5258 0.9430 0.5975 1.5904 4.5892	1.5849 0.9939 0.5731 1.3763 4.4358	1.6420 1.0393 0.5273 1.1890 4.2775	1.6942 1.0784 0.4596 1.0347 4.1245	1.7374 1.1111 0.3696 0.9182 3.9906	1.7686 1.1372 0.2586 0.8400 3.8885	1.7869 1.1544 0.1330 0.7959 3.8250	1.7931 1.1603 0.0000 0.7816 3.8031	
0.95	1.5285 0.9400 0.6054 1.5950 4.6259	1.5872 0.9914 0.5800 1.3810 4.4724	1.6441 1.0370 0.5329 1.1926 4.3088	1.6962 1.0760 0.4637 1.0365 4.1456	1.7395 1.1087 0.3722 0.9179 3.9992	1.7708 1.1346 0.2600 0.8380 3.8861	1.7892 1.1516 0.1336 0.7929 3.8157	1.7954 1.1575 0.0000 0.7783 3.7916	
1.00	1.5310 0.9371 0.6130 1.5996 4.6618	1.5894 0.9889 0.5866 1.3858 4.5082	1.6461 1.0348 0.5382 1.1964 4.3393	1.6981 1.0738 0.4675 1.0384 4.1660	1.7415 1.1063 0.3745 0.9177 4.0071	1.7729 1.1320 0.2613 0.8360 3.8830	1.7915 1.1489 0.1341 0.7898 3.8059	1.7977 1.1547 0.0000 0.7748 3.7795	
F_x	0.8822	0.8768	0.8691	0.8592	0.8480	0.8377	0.8307	0.8282	

$$M_{\infty} = 7, \beta_K = 40^\circ, \alpha = 5^\circ$$

ξ	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.00	1.1260 0.9448 0.0000 2.9483 5.3753	1.1269 0.9456 0.0201 2.9379 5.3617	1.1296 0.9478 0.0395 2.9072 5.3217	1.1340 0.9515 0.0574 2.8580 5.2571	1.1399 0.9565 0.0731 2.7927 5.1711	1.1472 0.9626 0.0861 2.7147 5.0676	1.1556 0.9696 0.0959 2.6279 4.9512	1.1649 0.9774 0.1029 2.5362 4.8280	1.1746 0.9854 0.1015 2.4434 4.6952
0.05	1.1327 0.9369 0.0000 2.9477 5.3745	1.1347 0.9386 0.0237 2.9373 5.3674	1.1408 0.9438 0.0465 2.9068 5.3465	1.1507 0.9522 0.0675 2.8576 5.3135	1.1642 0.9637 0.0860 2.7924 5.2709	1.1809 0.9779 0.1012 2.7146 5.2220	1.2003 0.9945 0.1125 2.6278 5.1707	1.2218 1.0129 0.1196 2.5362 5.1207	1.2450 1.0324 0.1222 2.4434 5.0764
0.10	1.1394 0.9291 0.0000 2.9461 5.3724	1.1415 0.9309 0.0260 2.9357 5.3659	1.1477 0.9363 0.0509 2.9053 5.3467	1.1578 0.9450 0.0741 2.8562 5.3164	1.1716 0.9570 0.0945 2.7912 5.2771	1.1887 0.9717 0.1114 2.7135 5.2320	1.2084 0.9887 0.1241 2.6269 5.1844	1.2300 1.0075 0.1322 2.5354 5.1377	1.2533 1.0273 0.1355 2.4426 5.0956
0.15	1.1460 0.9214 0.0000 2.9434 5.3689	1.1481 0.9233 0.0277 2.9331 5.3628	1.1544 0.9288 0.0544 2.9027 5.3449	1.1647 0.9378 0.0792 2.8539 5.3164	1.1786 0.9501 0.1011 2.7891 5.2796	1.1958 0.9651 0.1192 2.7116 5.2370	1.2156 0.9825 0.1330 2.6252 5.1920	1.2373 1.0016 0.1420 2.5338 5.1475	1.2605 1.0216 0.1457 2.4411 5.1068
0.20	1.1526 0.9139 0.0000 2.9398 5.3642	1.1548 0.9158 0.0292 2.9295 5.3584	1.1611 0.9215 0.0574 2.8993 5.3414	1.1714 0.9307 0.0835 2.8506 5.3145	1.1854 0.9432 0.1066 2.7860 5.2796	1.2026 0.9585 0.1259 2.7088 5.2392	1.2224 0.9761 0.1405 2.6226 5.1962	1.2441 0.9955 0.1501 2.5315 5.1534	1.2673 1.0157 0.1541 2.4390 5.1137
0.25	1.1592 0.9055 0.0000 2.9352 5.3582	1.1613 0.9085 0.0305 2.9250 5.3527	1.1676 0.9142 0.0600 2.8949 5.3366	1.1780 0.9236 0.0873 2.8464 5.3111	1.1920 0.9363 0.1115 2.7821 5.2778	1.2092 0.9519 0.1316 2.7052 5.2392	1.2290 0.9698 0.1470 2.6193 5.1979	1.2507 0.9894 0.1571 2.5284 5.1565	1.2737 1.0098 0.1614 2.4361 5.1178
0.30	1.1657 0.8993 0.0000 2.9297 5.3510	1.1678 0.9013 0.0317 2.9195 5.3458	1.1741 0.9071 0.0623 2.8896 5.3305	1.1845 0.9167 0.0907 2.8414 5.3061	1.1985 0.9296 0.1158 2.7774 5.2744	1.2156 0.9453 0.1368 2.7009 5.2374	1.2354 0.9635 0.1528 2.6153 5.1976	1.2570 0.9833 0.1633 2.5247 5.1576	1.2798 1.0039 0.1678 2.4326 5.1196
0.35	1.1721 0.8922 0.0000 2.9233 5.3427	1.1743 0.8942 0.0328 2.9132 5.3377	1.1806 0.9002 0.0644 2.8835 5.3232	1.1909 0.9098 0.0938 2.8356 5.2999	1.2049 0.9229 0.1197 2.7720 5.2696	1.2220 0.9389 0.1415 2.6957 5.2341	1.2416 0.9572 0.1580 2.6106 5.1957	1.2631 0.9772 0.1689 2.5202 5.1568	1.2859 0.9980 0.1736 2.4284 5.1195
0.40	1.1785 0.8852 0.0000 2.9161 5.3333	1.1807 0.8873 0.0338 2.9061 5.3285	1.1870 0.8933 0.0663 2.8765 5.3147	1.1973 0.9031 0.0966 2.8289 5.2925	1.2112 0.9163 0.1233 2.7657 5.2635	1.2282 0.9325 0.1457 2.6899 5.2293	1.2478 0.9510 0.1628 2.6051 5.1923	1.2691 0.9712 0.1740 2.5152 5.1545	1.2917 0.9922 0.1788 2.4237 5.1179
0.45	1.1849 0.8784 0.0000 2.9081 5.3228	1.1870 0.8804 0.0347 2.8981 5.3183	1.1933 0.8865 0.0681 2.8688 5.3051	1.2036 0.8965 0.0992 2.8216 5.2839	1.2174 0.9099 0.1267 2.7587 5.2561	1.2343 0.9262 0.1496 2.6834 5.2234	1.2538 0.9449 0.1671 2.5991 5.1876	1.2751 0.9653 0.1787 2.5095 5.1507	1.2975 0.9865 0.1836 2.4183 5.1148
0.50	1.1913 0.8716 0.0000 2.8993 5.3113	1.1934 0.8737 0.0355 2.8894 5.3070	1.1996 0.8799 0.0698 2.8603 5.2941	1.2098 0.8900 0.1016 2.8134 5.2743	1.2236 0.9035 0.1298 2.7511 5.2477	1.2404 0.9200 0.1533 2.6762 5.2163	1.2598 0.9389 0.1712 2.5923 5.1816	1.2809 0.9595 0.1830 2.5033 5.1457	1.3031 0.9808 0.1880 2.4124 5.1104

$$M_{\infty} = 7, \beta_K = 40^\circ, \alpha = 5^\circ$$

ξ	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.55	1. 1976 0. 8650 0. 0000 2. 8898 5. 2988	1. 1997 0. 8671 0. 0363 2. 8800 5. 2948	1. 2059 0. 8734 0. 0714 2. 8511 5. 2828	1. 2160 0. 8835 0. 1039 2. 8046 5. 2635	1. 2297 0. 8972 0. 1327 2. 7427 5. 2381	1. 2464 0. 9139 0. 1567 2. 6684 5. 2078	1. 2657 0. 9330 0. 1750 2. 5850 5. 1744	1. 2866 0. 9537 0. 1870 2. 4964 5. 1395	1. 3087 0. 9753 0. 1921 2. 4060 5. 1048
0.60	1. 2039 0. 8585 0. 0000 2. 8795 5. 2854	1. 2060 0. 8606 0. 0371 2. 8698 5. 2815	1. 2122 0. 8669 0. 0729 2. 8412 5. 2701	1. 2222 0. 8772 0. 1060 2. 7951 5. 2518	1. 2358 0. 8910 0. 1354 2. 7337 5. 2275	1. 2524 0. 9079 0. 1599 2. 6599 5. 1984	1. 2715 0. 9271 0. 1785 2. 5771 5. 1662	1. 2923 0. 9480 0. 1907 2. 4890 5. 1322	1. 3142 0. 9697 0. 1959 2. 3990 5. 0980
0.65	1. 2102 0. 8520 0. 0000 2. 8685 5. 2710	1. 2123 0. 8542 0. 0378 2. 8589 5. 2674	1. 2184 0. 8606 0. 0742 2. 8306 5. 2565	1. 2283 0. 8709 0. 1080 2. 7849 5. 2391	1. 2418 0. 8849 0. 1379 2. 7240 5. 2159	1. 2583 0. 9019 0. 1629 2. 6508 5. 1880	1. 2773 0. 9213 0. 1818 2. 5686 5. 1568	1. 2979 0. 9424 0. 1942 2. 4810 5. 1238	1. 3197 0. 9643 0. 1994 2. 3915 5. 0902
0.70	1. 2165 0. 8457 0. 0000 2. 8569 5. 2557	1. 2185 0. 8478 0. 0385 2. 8474 5. 2522	1. 2246 0. 8543 0. 0756 2. 8193 5. 2420	1. 2345 0. 8648 0. 1100 2. 7741 5. 2255	1. 2478 0. 8789 0. 1404 2. 7137 5. 2033	1. 2642 0. 8960 0. 1657 2. 6411 5. 1766	1. 2830 0. 9156 0. 1850 2. 5596 5. 1465	1. 3035 0. 9369 0. 1975 2. 4726 5. 1143	1. 3251 0. 9589 0. 2027 2. 3835 5. 0813
0.75	1. 2227 0. 8394 0. 0000 2. 8446 5. 2395	1. 2248 0. 8416 0. 0391 2. 8352 5. 2362	1. 2308 0. 8481 0. 0768 2. 8074 5. 2266	1. 2406 0. 8587 0. 1118 2. 7626 5. 2109	1. 2538 0. 8729 0. 1427 2. 7028 5. 1898	1. 2701 0. 8902 0. 1684 2. 6309 5. 1642	1. 2887 0. 9100 0. 1879 2. 5499 5. 1352	1. 3090 0. 9314 0. 2006 2. 4635 5. 1039	1. 3304 0. 9536 0. 2059 2. 3751 5. 0715
0.80	1. 2290 0. 8332 0. 0000 2. 8316 5. 2224	1. 2310 0. 8354 0. 0397 2. 8223 5. 2193	1. 2370 0. 8420 0. 0780 2. 7948 5. 2102	1. 2467 0. 8526 0. 1135 2. 7505 5. 1954	1. 2598 0. 8670 0. 1448 2. 6913 5. 1753	1. 2759 0. 8845 0. 1709 2. 6200 5. 1509	1. 2944 0. 9044 0. 1907 2. 5398 5. 1229	1. 3145 0. 9260 0. 2036 2. 4540 5. 0925	1. 3357 0. 9484 0. 2088 2. 3661 5. 0607
0.85	1. 2353 0. 8270 0. 0000 2. 8179 5. 2044	1. 2373 0. 8293 0. 0403 2. 8087 5. 2015	1. 2432 0. 8359 0. 0791 2. 7816 5. 1929	1. 2528 0. 8467 0. 1151 2. 7378 5. 1789	1. 2658 0. 8611 0. 1469 2. 6792 5. 1600	1. 2817 0. 8788 0. 1734 2. 6086 5. 1366	1. 3000 0. 8989 0. 1934 2. 5291 5. 1098	1. 3200 0. 9206 0. 2064 2. 4440 5. 0802	1. 3410 0. 9432 0. 2116 2. 3566 5. 0490
0.90	1. 2416 0. 8209 0. 0000 2. 8036 5. 1855	1. 2435 0. 8232 0. 0408 2. 7945 5. 1828	1. 2494 0. 8299 0. 0802 2. 7677 5. 1748	1. 2589 0. 8408 0. 1167 2. 7244 5. 1616	1. 2717 0. 8554 0. 1489 2. 6665 5. 1437	1. 2875 0. 8731 0. 1757 2. 5967 5. 1215	1. 3056 0. 8934 0. 1959 2. 5178 5. 0956	1. 3254 0. 9153 0. 2090 2. 4334 5. 0670	1. 3463 0. 9381 0. 2142 2. 3467 5. 0364
0.95	1. 2478 0. 8149 0. 0000 2. 7887 5. 1658	1. 2498 0. 8172 0. 0414 2. 7797 5. 1632	1. 2556 0. 8239 0. 0812 2. 7532 5. 1557	1. 2650 0. 8349 0. 1182 2. 7105 5. 1434	1. 2777 0. 8496 0. 1508 2. 6532 5. 1265	1. 2933 0. 8675 0. 1778 2. 5841 5. 1054	1. 3113 0. 8880 0. 1983 2. 5060 5. 0806	1. 3309 0. 9100 0. 2115 2. 4224 5. 0529	1. 3515 0. 9330 0. 2167 2. 3363 5. 0229
1.00	1. 2542 0. 8089 0. 0000 2. 7731 5. 1451	1. 2561 0. 8112 0. 0419 2. 7642 5. 1428	1. 2618 0. 8180 0. 0822 2. 7381 5. 1358	1. 2711 0. 8291 0. 1196 2. 6959 5. 1243	1. 2837 0. 8439 0. 1526 2. 6394 5. 1084	1. 2991 0. 8620 0. 1799 2. 5710 5. 0884	1. 3169 0. 8826 0. 2006 2. 4937 5. 0647	1. 3363 0. 9048 0. 2139 2. 4108 5. 0378	1. 3568 0. 9279 0. 2191 2. 3255 5. 0085
F_x	1. 0574	1. 0571	1. 0565	1. 0553	1. 0537	1. 0516	1. 0491	1. 0462	1. 0428

$$M_{\infty} = 7, \beta_{\kappa} = 40^{\circ}, \alpha = 5^{\circ}$$

ξ	θ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.00	1.1842	1.1936	1.2023	1.2099	1.2162	1.2209	1.2237	1.3690	1.2247
	0.9936	1.0015	1.0088	1.0152	1.0205	1.0244	1.0268	1.1485	1.0276
	0.1009	0.0949	0.0850	0.0719	0.0562	0.0386	0.0196	0.0000	0.0000
	2.3538	2.2705	2.1961	2.1328	2.0822	2.0454	2.0231	2.0156	2.0156
	4.5767	4.4604	4.3554	4.2653	4.1928	4.1398	4.1075	5.0284	4.0967
0.05	1.2688	1.2921	1.3144	1.3344	1.3511	1.3638	1.3717	1.3744	
	1.0525	1.0724	1.0913	1.1082	1.1225	1.1332	1.1399	1.1422	
	0.1198	0.1128	0.1017	0.0866	0.0681	0.0470	0.0240	0.0000	
	2.3538	2.2705	2.1960	2.1326	2.0820	2.0451	2.0228	2.0153	
	5.0416	5.0175	5.0050	5.0030	5.0083	5.0166	5.0238	5.0265	
0.10	1.2769	1.3000	1.3218	1.3412	1.3574	1.3696	1.3772	1.3797	
	1.0476	1.0675	1.0862	1.1029	1.1168	1.1272	1.1337	1.1359	
	0.1334	0.1261	0.1141	0.0975	0.0770	0.0532	0.0272	0.0000	
	2.3531	2.2697	2.1951	2.1317	2.0810	2.0441	2.0217	2.0142	
	5.0616	5.0366	5.0215	5.0153	5.0156	5.0193	5.0230	5.0246	
0.15	1.2840	1.3068	1.3283	1.3474	1.3632	1.3751	1.3824	1.3849	
	1.0420	1.0620	1.0807	1.0973	1.1110	1.1213	1.1277	1.1299	
	0.1436	0.1361	0.1234	0.1056	0.0835	0.0578	0.0295	0.0000	
	2.3517	2.2683	2.1937	2.1302	2.0794	2.0424	2.0199	2.0124	
	5.0731	5.0475	5.0305	5.0215	5.0185	5.0191	5.0207	5.0214	
0.20	1.2906	1.3132	1.3344	1.3532	1.3687	1.3804	1.3876	1.3900	
	1.0363	1.0564	1.0751	1.0916	1.1053	1.1156	1.1219	1.1241	
	0.1521	0.1443	0.1309	0.1121	0.0887	0.0614	0.0314	0.0000	
	2.3496	2.2662	2.1916	2.1280	2.0771	2.0401	2.0176	2.0100	
	5.0803	5.0541	5.0355	5.0243	5.0188	5.0171	5.0170	5.0172	
0.25	1.2968	1.3192	1.3402	1.3587	1.3741	1.3855	1.3926	1.3950	
	1.0305	1.0507	1.0694	1.0860	1.0997	1.1099	1.1163	1.1184	
	0.1594	0.1512	0.1372	0.1176	0.0930	0.0644	0.0329	0.0000	
	2.3468	2.2635	2.1888	2.1252	2.0743	2.0372	2.0146	2.0071	
	5.0845	5.0577	5.0378	5.0248	5.0172	5.0136	5.0122	5.0119	
0.30	1.3028	1.3251	1.3458	1.3641	1.3793	1.3905	1.3975	1.3998	
	1.0248	1.0451	1.0639	1.0805	1.0942	1.1044	1.1108	1.1129	
	0.1657	0.1573	0.1428	0.1223	0.0967	0.0670	0.0343	0.0000	
	2.3434	2.2602	2.1855	2.1219	2.0709	2.0337	2.0112	2.0036	
	5.0865	5.0591	5.0381	5.0235	5.0141	5.0089	5.0064	5.0057	
0.35	1.3087	1.3307	1.3513	1.3694	1.3843	1.3955	1.4023	1.4047	
	1.0191	1.0395	1.0584	1.0750	1.0888	1.0991	1.1054	1.1076	
	0.1714	0.1627	0.1477	0.1265	0.1000	0.0693	0.0354	0.0000	
	2.3395	2.2563	2.1817	2.1181	2.0670	2.0298	2.0072	1.9996	
	5.0865	5.0587	5.0367	5.0206	5.0097	5.0031	4.9996	4.9985	
0.40	1.3144	1.3363	1.3566	1.3745	1.3893	1.4003	1.4071	1.4094	
	1.0134	1.0339	1.0529	1.0697	1.0835	1.0938	1.1002	1.1023	
	0.1766	0.1676	0.1520	0.1302	0.1030	0.0713	0.0365	0.0000	
	2.3349	2.2519	2.1773	2.1137	2.0626	2.0253	2.0027	1.9951	
	5.0850	5.0567	5.0338	5.0164	5.0042	4.9963	4.9919	4.9905	
0.45	1.3200	1.3417	1.3618	1.3796	1.3942	1.4051	1.4118	1.4141	
	1.0078	1.0285	1.0476	1.0644	1.0783	1.0887	1.0951	1.0972	
	0.1812	0.1720	0.1560	0.1336	0.1056	0.0731	0.0374	0.0000	
	2.3298	2.2470	2.1725	2.1088	2.0577	2.0204	1.9978	1.9901	
	5.0820	5.0534	5.0296	5.0111	4.9975	4.9885	4.9833	4.9816	
0.50	1.3255	1.3470	1.3670	1.3846	1.3991	1.4098	1.4165	1.4187	
	1.0223	1.0231	1.0424	1.0593	1.0732	1.0836	1.0900	1.0922	
	0.1856	0.1761	0.1597	0.1367	0.1080	0.0747	0.0382	0.0000	
	2.3242	2.2415	2.1671	2.1035	2.0524	2.0151	1.9924	1.9848	
	5.0777	5.0487	5.0242	5.0046	4.9899	4.9798	4.9739	4.9720	

$$M_{\infty} = 7, \beta_{\kappa} = 40^{\circ}, \alpha = 5^{\circ}$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.55	1.3309 0.9969 0.1895 2.3180 5.0722	1.3522 1.0179 0.1798 2.2356 5.0429	1.3721 1.0372 0.1630 2.1613 5.0177	1.3895 1.0542 0.1395 2.0977 4.9971	1.4038 1.0682 0.1102 2.0466 4.9813	1.4145 1.0787 0.0763 2.0093 4.9702	1.4211 1.0851 0.0390 1.9865 4.9637	1.4233 1.0873 0.0000 1.9789 4.9616	
0.60	1.3362 0.9916 0.1932 2.3114 5.0656	1.3574 1.0126 0.1833 2.2292 5.0360	1.3771 1.0321 0.1661 2.1550 5.0101	1.3943 1.0492 0.1421 2.0915 4.9886	1.4086 1.0633 0.1123 2.0404 4.9718	1.4192 1.0738 0.0776 2.0031 4.9599	1.4257 1.0803 0.0397 1.9803 4.9528	1.4279 1.0825 0.0000 1.9727 4.9504	
0.65	1.3415 0.9863 0.1967 2.3043 5.0579	1.3625 1.0075 0.1865 2.2223 5.0281	1.3820 1.0271 0.1690 2.1483 5.0016	1.3992 1.0443 0.1445 2.0849 4.9792	1.4133 1.0584 0.1141 2.0338 4.9615	1.4238 1.0690 0.0789 1.9964 4.9488	1.4302 1.0755 0.0403 1.9737 4.9410	1.4324 1.0777 0.0000 1.9660 4.9385	
0.70	1.3467 0.9811 0.1999 2.2967 5.0493	1.3675 1.0024 0.1895 2.2150 5.0192	1.3869 1.0221 0.1716 2.1411 4.9921	1.4039 1.0394 0.1468 2.0778 4.9690	1.4179 1.0537 0.1159 2.0268 4.9504	1.4283 1.0643 0.0801 1.9894 4.9368	1.4347 1.0708 0.0409 1.9666 4.9286	1.4369 1.0730 0.0000 1.9590 4.9258	
0.75	1.3519 0.9759 0.2029 2.2886 5.0396	1.3726 0.9974 0.1923 2.2072 5.0094	1.3918 1.0172 0.1741 2.1336 4.9818	1.4087 1.0346 0.1488 2.0703 4.9579	1.4225 1.0489 0.1175 2.0193 4.9385	1.4329 1.0596 0.0812 1.9820 4.9242	1.4392 1.0662 0.0415 1.9592 4.9154	1.4414 1.0684 0.0000 1.9516 4.9125	
0.80	1.3570 0.9709 0.2058 2.2801 5.0291	1.3775 0.9925 0.1949 2.1990 4.9986	1.3966 1.0124 0.1764 2.1256 4.9705	1.4134 1.0299 0.1508 2.0625 4.9460	1.4272 1.0443 0.1190 2.0115 4.9258	1.4374 1.0550 0.0822 1.9742 4.9108	1.4437 1.0616 0.0420 1.9514 4.9016	1.4459 1.0639 0.0000 1.9438 4.8984	
0.85	1.3621 0.9658 0.2085 2.2711 5.0176	1.3825 0.9876 0.1974 2.1903 4.9870	1.4014 1.0076 0.1786 2.1172 4.9585	1.4181 1.0252 0.1526 2.0542 4.9332	1.4317 1.0397 0.1204 2.0033 4.9123	1.4419 1.0505 0.0831 1.9660 4.8967	1.4482 1.0571 0.0425 1.9432 4.8870	1.4503 1.0594 0.0000 1.9356 4.8837	
0.90	1.3672 0.9608 0.2110 2.2617 5.0052	1.3874 0.9827 0.1997 2.1813 4.9745	1.4062 1.0029 0.1807 2.1083 4.9456	1.4227 1.0206 0.1543 2.0455 4.9197	1.4363 1.0351 0.1217 1.9947 4.8981	1.4464 1.0460 0.0840 1.9574 4.8818	1.4527 1.0526 0.0429 1.9347 4.8717	1.4548 1.0549 0.0000 1.9270 4.8683	
0.95	1.3723 0.9559 0.2134 2.2518 4.9920	1.3924 0.9779 0.2019 2.1718 4.9612	1.4110 0.9982 0.1826 2.0991 4.9319	1.4274 1.0160 0.1559 2.0364 4.9054	1.4409 1.0306 0.1229 1.9857 4.8831	1.4509 1.0415 0.0849 1.9485 4.8662	1.4571 1.0482 0.0433 1.9257 4.8557	1.4592 1.0505 0.0000 1.9181 4.8521	
1.00	1.3774 0.9510 0.2157 2.2415 4.9779	1.3973 0.9731 0.2040 2.1619 4.9470	1.4158 0.9935 0.1844 2.0895 4.9173	1.4321 1.0114 0.1574 2.0270 4.8903	1.4455 1.0261 0.1241 1.9764 4.8674	1.4555 1.0371 0.0856 1.9392 4.8499	1.4616 1.0438 0.0437 1.9164 4.8390	1.4637 1.0461 0.0000 1.9088 4.8353	
F_x	1.0393	1.0356	1.0319	1.0285	1.0256	1.0233	1.0219	1.0214	

APPENDICES

TABLES OF GASDYNAMIC FUNCTIONS OBTAINED BY INTERPOLATION

$$M_{\infty} = 4, \beta_{\kappa} = 10^{\circ}, \alpha = 2^{\circ}30'$$

ξ	θ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.00	1.999	2.000	2.001	2.002	2.005	2.007	2.011	2.014	2.018
	0.352	0.352	0.352	0.353	0.353	0.354	0.354	0.355	0.355
	0.000	0.020	0.040	0.058	0.075	0.089	0.100	0.108	0.112
	0.462	0.461	0.456	0.448	0.438	0.427	0.414	0.400	0.387
	1.776	1.771	1.758	1.736	1.708	1.674	1.636	1.597	1.558
0.05	2.002	2.002	2.004	2.005	2.008	2.011	2.014	2.018	2.022
	0.336	0.337	0.337	0.337	0.338	0.339	0.340	0.341	0.342
	0.000	0.019	0.039	0.057	0.073	0.087	0.098	0.105	0.109
	0.462	0.460	0.456	0.448	0.438	0.427	0.414	0.401	0.388
	1.775	1.771	1.757	1.736	1.709	1.676	1.639	1.601	1.563
0.10	2.005	2.005	2.006	2.008	2.010	2.013	2.017	2.020	2.024
	0.322	0.322	0.322	0.323	0.324	0.325	0.326	0.328	0.329
	0.000	0.019	0.038	0.055	0.071	0.084	0.095	0.102	0.106
	0.461	0.459	0.455	0.447	0.438	0.426	0.413	0.400	0.387
	1.772	1.768	1.755	1.734	1.707	1.675	1.639	1.601	1.563
0.15	2.007	2.008	2.009	2.011	2.013	2.016	2.019	2.023	2.026
	0.309	0.309	0.309	0.310	0.311	0.312	0.314	0.316	0.318
	0.000	0.018	0.037	0.054	0.069	0.082	0.093	0.099	0.103
	0.459	0.458	0.453	0.446	0.436	0.425	0.412	0.400	0.387
	1.768	1.763	1.751	1.730	1.704	1.672	1.636	1.599	1.562
0.20	2.010	2.010	2.011	2.013	2.015	2.018	2.021	2.025	2.029
	0.296	0.296	0.297	0.298	0.299	0.300	0.302	0.304	0.307
	0.000	0.018	0.036	0.053	0.068	0.080	0.090	0.097	0.100
	0.457	0.455	0.451	0.444	0.434	0.423	0.411	0.398	0.386
	1.762	1.758	1.745	1.725	1.699	1.667	1.632	1.595	1.558
0.25	2.012	2.013	2.014	2.015	2.018	2.020	2.024	2.027	2.031
	0.284	0.284	0.285	0.286	0.288	0.289	0.291	0.294	0.296
	0.000	0.018	0.035	0.052	0.066	0.079	0.088	0.095	0.098
	0.454	0.453	0.449	0.442	0.432	0.421	0.409	0.396	0.384
	1.755	1.751	1.739	1.719	1.693	1.662	1.627	1.591	1.554
0.30	2.015	2.015	2.016	2.018	2.020	2.023	2.026	2.029	2.033
	0.273	0.273	0.274	0.275	0.277	0.279	0.281	0.284	0.287
	0.000	0.017	0.035	0.051	0.065	0.077	0.086	0.093	0.096
	0.452	0.450	0.446	0.439	0.430	0.419	0.407	0.394	0.382
	1.747	1.743	1.731	1.712	1.686	1.656	1.621	1.585	1.549
0.35	2.017	2.017	2.018	2.020	2.022	2.025	2.028	2.032	2.035
	0.262	0.263	0.263	0.265	0.267	0.269	0.271	0.274	0.278
	0.000	0.017	0.034	0.050	0.064	0.076	0.085	0.091	0.094
	0.448	0.447	0.443	0.436	0.427	0.416	0.404	0.392	0.380
	1.739	1.735	1.723	1.704	1.679	1.648	1.615	1.579	1.543
0.40	2.019	2.020	2.021	2.022	2.025	2.027	2.030	2.034	2.037
	0.252	0.252	0.253	0.255	0.257	0.259	0.262	0.265	0.269
	0.000	0.017	0.033	0.049	0.063	0.074	0.083	0.089	0.092
	0.445	0.444	0.439	0.433	0.424	0.413	0.402	0.390	0.378
	1.729	1.726	1.714	1.695	1.670	1.640	1.607	1.572	1.536
0.45	2.022	2.022	2.023	2.025	2.027	2.029	2.032	2.036	2.039
	0.242	0.243	0.244	0.245	0.247	0.250	0.253	0.257	0.260
	0.000	0.017	0.033	0.048	0.062	0.073	0.082	0.088	0.090
	0.441	0.440	0.436	0.429	0.421	0.410	0.399	0.387	0.375
	1.719	1.715	1.704	1.686	1.661	1.632	1.599	1.564	1.529
0.50	2.024	2.024	2.025	2.027	2.029	2.032	2.035	2.038	2.041
	0.233	0.233	0.234	0.236	0.238	0.241	0.244	0.248	0.252
	0.000	0.016	0.032	0.048	0.061	0.072	0.081	0.087	0.089
	0.437	0.436	0.432	0.425	0.417	0.407	0.396	0.384	0.372
	1.709	1.705	1.693	1.675	1.651	1.622	1.590	1.555	1.521

$$M_{\infty} = 4, \beta_{\kappa} = 10^{\circ}, \alpha = 2^{\circ}30'$$

ξ	θ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.55	2.026	2.027	2.028	2.029	2.031	2.034	2.037	2.040	2.043
	0.224	0.224	0.225	0.227	0.229	0.232	0.236	0.240	0.244
	0.000	0.016	0.032	0.047	0.060	0.071	0.080	0.085	0.088
	0.433	0.432	0.428	0.422	0.413	0.403	0.392	0.381	0.369
	1.697	1.693	1.682	1.664	1.641	1.612	1.580	1.546	1.512
0.60	2.029	2.029	2.030	2.031	2.033	2.036	2.039	2.042	2.045
	0.215	0.215	0.216	0.218	0.221	0.224	0.228	0.232	0.236
	0.000	0.016	0.032	0.046	0.059	0.070	0.079	0.084	0.087
	0.429	0.428	0.424	0.417	0.409	0.399	0.389	0.377	0.366
	1.685	1.681	1.670	1.653	1.629	1.601	1.570	1.536	1.502
0.65	2.031	2.031	2.032	2.034	2.036	2.038	2.041	2.044	2.048
	0.206	0.206	0.207	0.209	0.212	0.216	0.220	0.224	0.229
	0.000	0.016	0.031	0.046	0.059	0.070	0.078	0.083	0.085
	0.424	0.423	0.419	0.413	0.405	0.395	0.385	0.374	0.362
	1.672	1.668	1.658	1.641	1.618	1.590	1.559	1.526	1.492
0.70	2.033	2.034	2.035	2.036	2.038	2.040	2.043	2.046	2.050
	0.197	0.197	0.199	0.201	0.204	0.207	0.212	0.216	0.221
	0.000	0.016	0.031	0.046	0.058	0.069	0.077	0.082	0.084
	0.419	0.418	0.414	0.408	0.401	0.391	0.381	0.370	0.359
	1.659	1.655	1.644	1.627	1.605	1.578	1.547	1.514	1.481
0.75	2.036	2.036	2.037	2.038	2.040	2.043	2.046	2.049	2.052
	0.188	0.189	0.190	0.192	0.195	0.199	0.204	0.208	0.214
	0.000	0.015	0.031	0.045	0.058	0.068	0.076	0.082	0.084
	0.414	0.413	0.409	0.404	0.396	0.387	0.376	0.366	0.355
	1.644	1.641	1.630	1.614	1.591	1.565	1.534	1.502	1.469
0.80	2.038	2.038	2.039	2.041	2.043	2.045	2.048	2.051	2.054
	0.179	0.180	0.181	0.184	0.187	0.191	0.196	0.201	0.206
	0.000	0.015	0.031	0.045	0.057	0.068	0.076	0.081	0.083
	0.409	0.408	0.404	0.398	0.391	0.382	0.372	0.361	0.350
	1.629	1.625	1.615	1.599	1.577	1.551	1.521	1.489	1.457
0.85	2.041	2.041	2.042	2.043	2.045	2.048	2.050	2.053	2.057
	0.171	0.171	0.173	0.175	0.178	0.183	0.187	0.193	0.198
	0.000	0.015	0.030	0.045	0.057	0.067	0.075	0.080	0.082
	0.403	0.402	0.399	0.393	0.386	0.377	0.367	0.356	0.346
	1.613	1.609	1.599	1.583	1.562	1.536	1.506	1.475	1.443
0.90	2.043	2.044	2.045	2.046	2.048	2.050	2.053	2.056	2.059
	0.161	0.162	0.164	0.166	0.170	0.174	0.179	0.184	0.190
	0.000	0.015	0.030	0.044	0.057	0.067	0.075	0.080	0.082
	0.397	0.396	0.393	0.387	0.380	0.371	0.361	0.351	0.341
	1.595	1.592	1.582	1.566	1.545	1.519	1.491	1.460	1.428
0.95	2.046	2.047	2.047	2.049	2.051	2.053	2.056	2.059	2.062
	0.152	0.152	0.154	0.157	0.160	0.165	0.170	0.175	0.181
	0.000	0.015	0.030	0.044	0.056	0.067	0.074	0.079	0.081
	0.390	0.389	0.386	0.381	0.373	0.365	0.356	0.345	0.335
	1.576	1.573	1.563	1.547	1.527	1.502	1.473	1.443	1.411
1.00	2.049	2.050	2.051	2.052	2.054	2.056	2.059	2.062	2.065
	0.142	0.142	0.144	0.147	0.150	0.155	0.160	0.166	0.171
	0.000	0.015	0.030	0.044	0.056	0.066	0.074	0.079	0.081
	0.383	0.382	0.378	0.373	0.366	0.358	0.349	0.339	0.329
	1.554	1.551	1.542	1.527	1.506	1.481	1.453	1.423	1.392
F_x	0.308	0.309	0.310	0.311	0.314	0.317	0.320	0.324	0.328

$$M_{\infty} = 4, \beta_K = 10^\circ, \alpha = 2^\circ 30'$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.00	2.022	2.025	2.029	2.032	2.035	2.036	2.038	2.040	2.039
	0.356	0.357	0.357	0.358	0.358	0.359	0.359	0.359	0.359
	0.112	0.107	0.098	0.084	0.067	0.046	0.024	0.000	0.000
	0.375	0.364	0.355	0.347	0.341	0.337	0.335	0.334	0.334
	1.522	1.489	1.460	1.437	1.419	1.406	1.399	1.403	1.397
0.05	2.026	2.029	2.033	2.036	2.039	2.041	2.042	2.043	
	0.343	0.344	0.345	0.346	0.347	0.348	0.348	0.349	
	0.109	0.104	0.095	0.081	0.065	0.045	0.023	0.000	
	0.375	0.365	0.355	0.347	0.341	0.337	0.335	0.334	
	1.528	1.495	1.467	1.443	1.425	1.413	1.405	1.402	
0.10	2.028	2.032	2.035	2.038	2.041	2.043	2.044	2.044	
	0.331	0.332	0.334	0.335	0.337	0.338	0.338	0.339	
	0.105	0.100	0.092	0.079	0.062	0.043	0.022	0.000	
	0.375	0.364	0.355	0.347	0.341	0.337	0.334	0.333	
	1.528	1.495	1.466	1.443	1.424	1.411	1.403	1.401	
0.15	2.030	2.034	2.037	2.040	2.043	2.045	2.046	2.046	
	0.320	0.322	0.324	0.325	0.327	0.328	0.329	0.329	
	0.102	0.098	0.089	0.076	0.060	0.042	0.021	0.000	
	0.375	0.364	0.354	0.346	0.340	0.336	0.333	0.332	
	1.526	1.493	1.465	1.441	1.422	1.409	1.401	1.398	
0.20	2.032	2.036	2.039	2.042	2.045	2.047	2.048	2.048	
	0.309	0.311	0.314	0.316	0.318	0.319	0.320	0.320	
	0.099	0.095	0.086	0.074	0.058	0.040	0.020	0.000	
	0.374	0.363	0.353	0.345	0.339	0.335	0.332	0.331	
	1.523	1.490	1.462	1.438	1.419	1.405	1.397	1.394	
0.25	2.035	2.038	2.041	2.044	2.047	2.049	2.050	2.050	
	0.299	0.302	0.305	0.307	0.309	0.311	0.312	0.312	
	0.097	0.092	0.084	0.072	0.057	0.039	0.020	0.000	
	0.372	0.361	0.352	0.344	0.338	0.333	0.330	0.330	
	1.519	1.486	1.458	1.434	1.415	1.401	1.393	1.390	
0.30	2.037	2.040	2.043	2.046	2.049	2.050	2.051	2.052	
	0.290	0.293	0.296	0.298	0.301	0.302	0.304	0.304	
	0.095	0.090	0.082	0.070	0.055	0.038	0.019	0.000	
	0.370	0.359	0.350	0.342	0.336	0.331	0.329	0.328	
	1.514	1.482	1.453	1.429	1.410	1.396	1.388	1.385	
0.35	2.039	2.042	2.045	2.048	2.051	2.052	2.053	2.054	
	0.281	0.284	0.287	0.290	0.293	0.295	0.296	0.296	
	0.093	0.088	0.080	0.069	0.054	0.037	0.019	0.000	
	0.368	0.358	0.348	0.340	0.334	0.330	0.327	0.326	
	1.508	1.476	1.447	1.423	1.404	1.390	1.382	1.379	
0.40	2.041	2.044	2.047	2.050	2.052	2.054	2.055	2.055	
	0.272	0.276	0.279	0.282	0.285	0.287	0.289	0.289	
	0.091	0.087	0.078	0.067	0.052	0.036	0.018	0.000	
	0.366	0.355	0.346	0.338	0.332	0.328	0.325	0.324	
	1.502	1.470	1.441	1.417	1.398	1.384	1.376	1.373	
0.45	2.043	2.046	2.049	2.052	2.054	2.056	2.057	2.057	
	0.264	0.268	0.272	0.275	0.278	0.280	0.281	0.282	
	0.089	0.085	0.077	0.066	0.052	0.036	0.018	0.000	
	0.363	0.353	0.344	0.336	0.330	0.325	0.323	0.322	
	1.495	1.463	1.434	1.410	1.391	1.377	1.369	1.366	
0.50	2.045	2.048	2.051	2.054	2.056	2.058	2.059	2.059	
	0.256	0.260	0.264	0.268	0.271	0.273	0.274	0.275	
	0.088	0.084	0.076	0.065	0.051	0.035	0.018	0.000	
	0.361	0.350	0.341	0.333	0.327	0.323	0.320	0.319	
	1.487	1.455	1.427	1.403	1.384	1.370	1.361	1.359	

$$M_{\infty} = 4, \beta_{\kappa} = 10^{\circ}, \alpha = 2^{\circ}30'$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.55	2.047 0.249 0.087 0.358 1.478	2.050 0.253 0.082 0.348 1.447	2.053 0.257 0.074 0.339 1.419	2.056 0.261 0.064 0.331 1.395	2.058 0.264 0.050 0.325 1.376	2.060 0.266 0.035 0.320 1.362	2.061 0.268 0.017 0.318 1.353	2.061 0.268 0.000 0.317 1.351	
0.60	2.049 0.241 0.085 0.355 1.469	2.052 0.246 0.081 0.345 1.438	2.055 0.250 0.073 0.336 1.410	2.058 0.254 0.063 0.328 1.386	2.060 0.257 0.049 0.322 1.367	2.061 0.259 0.034 0.318 1.353	2.062 0.261 0.017 0.315 1.345	2.063 0.261 0.000 0.314 1.342	
0.65	2.051 0.234 0.084 0.351 1.459	2.054 0.238 0.080 0.341 1.428	2.057 0.243 0.072 0.333 1.401	2.060 0.247 0.062 0.325 1.377	2.062 0.250 0.049 0.319 1.358	2.063 0.253 0.034 0.315 1.344	2.064 0.254 0.017 0.312 1.336	2.065 0.255 0.000 0.311 1.333	
0.70	2.053 0.226 0.083 0.348 1.449	2.056 0.231 0.079 0.338 1.418	2.059 0.236 0.071 0.329 1.391	2.062 0.240 0.061 0.322 1.367	2.064 0.243 0.048 0.316 1.348	2.065 0.246 0.033 0.311 1.334	2.066 0.248 0.017 0.309 1.326	2.067 0.248 0.000 0.308 1.323	
0.75	2.055 0.219 0.082 0.344 1.437	2.058 0.224 0.078 0.334 1.407	2.061 0.229 0.070 0.326 1.380	2.064 0.233 0.060 0.318 1.356	2.066 0.236 0.048 0.312 1.337	2.067 0.239 0.033 0.308 1.324	2.068 0.241 0.016 0.305 1.315	2.069 0.241 0.000 0.305 1.313	
0.80	2.057 0.211 0.082 0.340 1.425	2.060 0.217 0.077 0.330 1.395	2.063 0.222 0.070 0.322 1.368	2.066 0.225 0.060 0.314 1.344	2.068 0.229 0.047 0.308 1.325	2.070 0.232 0.032 0.304 1.312	2.071 0.234 0.016 0.302 1.304	2.071 0.234 0.000 0.301 1.301	
0.85	2.060 0.204 0.081 0.336 1.412	2.063 0.209 0.077 0.326 1.382	2.066 0.214 0.069 0.318 1.355	2.068 0.218 0.059 0.310 1.331	2.070 0.222 0.047 0.304 1.313	2.072 0.225 0.032 0.200 1.299	2.073 0.227 0.016 0.298 1.291	2.073 0.227 0.000 0.297 1.288	
0.90	2.062 0.196 0.080 0.331 1.397	2.065 0.201 0.076 0.321 1.368	2.068 0.206 0.069 0.313 1.341	2.071 0.210 0.059 0.306 1.317	2.073 0.214 0.046 0.300 1.298	2.075 0.217 0.032 0.296 1.285	2.076 0.219 0.016 0.293 1.276	2.076 0.219 0.000 0.292 1.274	
0.95	2.065 0.187 0.080 0.325 1.380	2.068 0.193 0.076 0.316 1.351	2.071 0.198 0.068 0.308 1.325	2.074 0.202 0.058 0.300 1.300	2.076 0.205 0.046 0.294 1.281	2.077 0.208 0.032 0.290 1.268	2.078 0.210 0.016 0.288 1.260	2.079 0.211 0.000 0.287 1.257	
1.00	2.068 0.177 0.080 0.319 1.361	2.071 0.183 0.075 0.310 1.332	2.074 0.188 0.068 0.301 1.305	2.077 0.192 0.058 0.294 1.280	2.079 0.195 0.046 0.288 1.261	2.081 0.298 0.031 0.284 1.247	2.082 0.200 0.016 0.281 1.239	2.082 0.201 0.000 0.280 1.236	
F_x	0.333	0.337	0.342	0.346	0.350	0.352	0.354	0.354	

$$M_{\infty} = 4, \beta_k = 10^\circ, \alpha = 5^\circ$$

ξ	θ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.00	1.973	1.974	1.976	1.979	1.983	1.989	1.995	2.002	2.009
	0.348	0.348	0.348	0.349	0.349	0.350	0.351	0.353	0.354
	0.000	0.037	0.073	0.108	0.140	0.169	0.193	0.212	0.223
	0.548	0.544	0.532	0.514	0.490	0.462	0.433	0.404	0.376
	1.997	1.986	1.955	1.905	1.840	1.764	1.681	1.596	1.514
0.05	1.976	1.977	1.979	1.982	1.987	1.992	1.999	2.006	2.014
	0.331	0.331	0.332	0.333	0.334	0.335	0.337	0.339	0.341
	0.000	0.036	0.072	0.106	0.137	0.165	0.188	0.205	0.216
	0.547	0.543	0.532	0.514	0.491	0.464	0.435	0.406	0.378
	1.996	1.985	1.956	1.908	1.845	1.772	1.691	1.609	1.530
0.10	1.979	1.980	1.982	1.985	1.990	1.995	2.002	2.009	2.017
	0.316	0.316	0.317	0.318	0.319	0.321	0.324	0.326	0.329
	0.000	0.035	0.070	0.104	0.134	0.161	0.183	0.200	0.210
	0.546	0.542	0.531	0.513	0.491	0.464	0.436	0.407	0.380
	1.992	1.982	1.953	1.907	1.846	1.774	1.696	1.615	1.537
0.15	1.982	1.983	1.985	1.988	1.992	1.998	2.004	2.011	2.019
	0.301	0.302	0.302	0.304	0.306	0.308	0.311	0.315	0.318
	0.000	0.035	0.069	0.102	0.131	0.157	0.179	0.195	0.204
	0.544	0.540	0.529	0.512	0.490	0.464	0.436	0.408	0.381
	1.988	1.978	1.950	1.904	1.845	1.774	1.697	1.618	1.541
0.20	1.985	1.985	1.987	1.991	1.995	2.000	2.007	2.014	2.021
	0.288	0.288	0.289	0.291	0.293	0.296	0.300	0.304	0.308
	0.000	0.034	0.068	0.100	0.129	0.154	0.175	0.190	0.199
	0.541	0.538	0.527	0.510	0.488	0.463	0.436	0.408	0.382
	1.981	1.972	1.944	1.900	1.842	1.773	1.697	1.619	1.543
0.25	1.987	1.988	1.990	1.993	1.997	2.003	2.009	2.016	2.023
	0.275	0.276	0.277	0.279	0.281	0.285	0.289	0.293	0.299
	0.000	0.034	0.067	0.098	0.127	0.151	0.172	0.186	0.194
	0.538	0.535	0.524	0.508	0.486	0.461	0.435	0.407	0.381
	1.974	1.965	1.937	1.894	1.837	1.770	1.696	1.619	1.544
0.30	1.990	1.991	1.992	1.996	2.000	2.005	2.011	2.018	2.025
	0.263	0.264	0.265	0.267	0.270	0.274	0.279	0.284	0.290
	0.000	0.033	0.066	0.097	0.125	0.149	0.168	0.183	0.190
	0.535	0.532	0.521	0.505	0.484	0.460	0.433	0.407	0.381
	1.965	1.956	1.930	1.887	1.832	1.765	1.693	1.617	1.543
0.35	1.992	1.993	1.995	1.998	2.002	2.008	2.014	2.020	2.027
	0.252	0.252	0.254	0.256	0.260	0.264	0.269	0.275	0.281
	0.000	0.033	0.065	0.095	0.123	0.146	0.165	0.179	0.187
	0.531	0.528	0.518	0.502	0.481	0.457	0.432	0.405	0.380
	1.956	1.947	1.921	1.880	1.825	1.760	1.689	1.614	1.541
0.40	1.995	1.995	1.997	2.000	2.005	2.010	2.016	2.022	2.029
	0.241	0.241	0.243	0.246	0.249	0.254	0.260	0.266	0.273
	0.000	0.032	0.064	0.094	0.121	0.144	0.163	0.176	0.183
	0.527	0.524	0.514	0.499	0.478	0.455	0.430	0.404	0.379
	1.945	1.937	1.911	1.871	1.817	1.754	1.683	1.610	1.538
0.45	1.997	1.998	2.000	2.003	2.007	2.012	2.018	2.024	2.031
	0.230	0.231	0.232	0.235	0.240	0.245	0.251	0.258	0.265
	0.000	0.032	0.063	0.093	0.119	0.142	0.161	0.173	0.180
	0.523	0.520	0.510	0.495	0.475	0.452	0.427	0.402	0.377
	1.934	1.926	1.901	1.861	1.809	1.746	1.677	1.605	1.534
0.50	2.000	2.000	2.002	2.005	2.009	2.014	2.020	2.026	2.033
	0.220	0.220	0.222	0.226	0.230	0.236	0.242	0.250	0.258
	0.000	0.032	0.063	0.092	0.118	0.141	0.158	0.171	0.177
	0.518	0.515	0.506	0.491	0.472	0.449	0.425	0.400	0.375
	1.922	1.914	1.890	1.851	1.799	1.738	1.670	1.599	1.529

$$M_{\infty} = 4, \beta_{\kappa} = 10^{\circ}, \alpha = 5^{\circ}$$

ξ	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.55	2.002	2.003	2.005	2.007	2.011	2.016	2.022	2.028	2.035
	0.210	0.210	0.213	0.216	0.221	0.227	0.234	0.242	0.250
	0.000	0.031	0.062	0.091	0.117	0.139	0.156	0.169	0.175
	0.513	0.510	0.501	0.487	0.468	0.446	0.422	0.397	0.373
	1.909	1.901	1.878	1.840	1.789	1.729	1.663	1.593	1.523
0.60	2.005	2.005	2.007	2.010	2.014	2.019	2.024	2.030	2.037
	0.200	0.201	0.203	0.207	0.212	0.218	0.226	0.234	0.243
	0.000	0.031	0.062	0.090	0.116	0.138	0.155	0.167	0.172
	0.508	0.505	0.496	0.482	0.464	0.442	0.419	0.394	0.371
	1.896	1.888	1.865	1.828	1.778	1.720	1.654	1.585	1.517
0.65	2.007	2.008	2.009	2.012	2.016	2.021	2.026	2.032	2.039
	0.190	0.191	0.194	0.198	0.203	0.210	0.218	0.227	0.236
	0.000	0.031	0.061	0.089	0.115	0.136	0.153	0.165	0.170
	0.503	0.500	0.491	0.477	0.459	0.438	0.415	0.392	0.368
	1.882	1.874	1.852	1.815	1.767	1.709	1.645	1.577	1.509
0.70	2.009	2.010	2.012	2.014	2.018	2.023	2.028	2.034	2.041
	0.181	0.182	0.184	0.189	0.194	0.202	0.210	0.219	0.229
	0.000	0.031	0.061	0.089	0.114	0.135	0.152	0.163	0.168
	0.497	0.494	0.486	0.472	0.455	0.434	0.412	0.388	0.366
	1.867	1.859	1.837	1.802	1.754	1.698	1.635	1.568	1.501
0.75	2.012	2.012	2.014	2.017	2.021	2.025	2.031	2.037	2.043
	0.171	0.172	0.175	0.180	0.186	0.193	0.202	0.212	0.223
	0.000	0.031	0.060	0.088	0.113	0.134	0.150	0.161	0.167
	0.491	0.489	0.480	0.467	0.450	0.430	0.408	0.385	0.362
	1.851	1.844	1.822	1.787	1.741	1.686	1.624	1.559	1.493
0.80	2.014	2.015	2.017	2.019	2.023	2.028	2.033	2.039	2.045
	0.162	0.163	0.166	0.171	0.177	0.185	0.195	0.205	0.216
	0.000	0.030	0.060	0.088	0.113	0.133	0.149	0.160	0.165
	0.485	0.482	0.474	0.462	0.445	0.425	0.403	0.381	0.359
	1.835	1.827	1.806	1.772	1.727	1.673	1.612	1.548	1.483
0.85	2.017	2.018	2.019	2.022	2.025	2.030	2.035	2.041	2.047
	0.153	0.154	0.157	0.162	0.169	0.177	0.187	0.197	0.209
	0.000	0.030	0.060	0.087	0.112	0.133	0.148	0.159	0.164
	0.479	0.476	0.468	0.456	0.439	0.420	0.399	0.377	0.355
	1.817	1.810	1.789	1.756	1.712	1.659	1.599	1.536	1.472
0.90	2.020	2.020	2.022	2.024	2.028	2.032	2.038	2.043	2.049
	0.143	0.144	0.147	0.153	0.160	0.169	0.179	0.190	0.201
	0.000	0.030	0.060	0.087	0.111	0.132	0.148	0.158	0.162
	0.472	0.469	0.461	0.449	0.433	0.414	0.394	0.372	0.351
	1.798	1.791	1.771	1.739	1.696	1.644	1.586	1.523	1.460
0.95	2.023	2.023	2.025	2.027	2.031	2.035	2.040	2.046	2.052
	0.133	0.134	0.138	0.143	0.151	0.160	0.170	0.182	0.194
	0.000	0.030	0.060	0.087	0.111	0.131	0.147	0.157	0.161
	0.464	0.462	0.454	0.442	0.427	0.409	0.388	0.368	0.347
	1.778	1.771	1.752	1.720	1.678	1.627	1.570	1.509	1.447
1.00	2.026	2.026	2.028	2.030	2.034	2.038	2.043	2.049	2.055
	0.123	0.124	0.128	0.133	0.141	0.151	0.161	0.173	0.185
	0.000	0.030	0.060	0.087	0.111	0.131	0.146	0.156	0.161
	0.456	0.453	0.446	0.435	0.420	0.402	0.382	0.362	0.341
	1.756	1.749	1.730	1.700	1.659	1.609	1.553	1.493	1.431
F_{κ}	0.293	0.294	0.295	0.298	0.302	0.307	0.313	0.320	0.328

$$M_{\infty} = 4, \beta_{\kappa} = 10^{\circ}, \alpha = 5^{\circ}$$

ξ	θ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.00	2.017	2.024	2.032	2.038	2.043	2.047	2.050	2.057	2.051
	0.355	0.357	0.358	0.359	0.360	0.361	0.361	0.362	0.361
	0.226	0.221	0.205	0.179	0.143	0.100	0.051	0.000	0.000
	0.351	0.331	0.315	0.304	0.297	0.292	0.290	0.290	0.290
	1.439	1.376	1.326	1.290	1.267	1.253	1.247	1.262	1.245
0.05	2.022	2.030	2.037	2.044	2.050	2.054	2.057	2.058	
	0.344	0.346	0.349	0.351	0.353	0.355	0.356	0.357	
	0.219	0.213	0.197	0.172	0.137	0.095	0.049	0.000	
	0.354	0.333	0.317	0.306	0.298	0.293	0.290	0.290	
	1.457	1.395	1.346	1.310	1.286	1.272	1.264	1.262	
0.10	2.024	2.032	2.040	2.046	2.051	2.055	2.058	2.059	
	0.333	0.336	0.339	0.343	0.346	0.349	0.351	0.351	
	0.212	0.206	0.190	0.165	0.132	0.092	0.047	0.000	
	0.356	0.335	0.319	0.307	0.298	0.293	0.290	0.289	
	1.465	1.403	1.353	1.315	1.289	1.273	1.264	1.261	
0.15	2.027	2.034	2.041	2.048	2.053	2.057	2.059	2.060	
	0.322	0.327	0.331	0.335	0.339	0.343	0.345	0.346	
	0.206	0.199	0.184	0.160	0.127	0.088	0.045	0.000	
	0.357	0.336	0.320	0.307	0.299	0.293	0.290	0.289	
	1.470	1.408	1.357	1.318	1.291	1.273	1.263	1.259	
0.20	2.029	2.036	2.043	2.049	2.054	2.058	2.060	2.061	
	0.313	0.318	0.323	0.328	0.333	0.337	0.339	0.340	
	0.200	0.194	0.178	0.154	0.123	0.085	0.043	0.000	
	0.358	0.337	0.320	0.308	0.299	0.293	0.289	0.288	
	1.472	1.410	1.359	1.319	1.291	1.272	1.261	1.257	
0.25	2.031	2.038	2.045	2.051	2.056	2.059	2.061	2.062	
	0.304	0.310	0.316	0.321	0.327	0.331	0.334	0.335	
	0.195	0.189	0.173	0.150	0.119	0.082	0.042	0.000	
	0.358	0.337	0.320	0.308	0.298	0.292	0.288	0.287	
	1.474	1.412	1.360	1.319	1.290	1.270	1.258	1.255	
0.30	2.033	2.040	2.046	2.052	2.057	2.061	2.063	2.063	
	0.296	0.302	0.309	0.315	0.321	0.325	0.328	0.329	
	0.191	0.184	0.169	0.146	0.116	0.080	0.041	0.000	
	0.357	0.337	0.320	0.307	0.298	0.291	0.287	0.286	
	1.473	1.412	1.360	1.318	1.288	1.267	1.255	1.252	
0.35	2.035	2.042	2.048	2.054	2.058	2.062	2.064	2.065	
	0.288	0.295	0.302	0.309	0.315	0.320	0.323	0.324	
	0.187	0.180	0.165	0.142	0.113	0.078	0.040	0.000	
	0.357	0.336	0.320	0.306	0.297	0.290	0.286	0.285	
	1.472	1.410	1.358	1.317	1.286	1.264	1.252	1.248	
0.40	2.036	2.043	2.050	2.055	2.060	2.063	2.065	2.066	
	0.280	0.288	0.295	0.303	0.310	0.314	0.318	0.319	
	0.183	0.176	0.161	0.139	0.110	0.076	0.039	0.000	
	0.356	0.336	0.319	0.305	0.296	0.289	0.285	0.284	
	1.469	1.408	1.356	1.314	1.282	1.261	1.248	1.244	
0.45	2.038	2.045	2.051	2.057	2.061	2.065	2.067	2.067	
	0.273	0.281	0.289	0.297	0.304	0.309	0.313	0.314	
	0.180	0.173	0.158	0.136	0.108	0.075	0.038	0.000	
	0.354	0.334	0.318	0.304	0.294	0.288	0.284	0.282	
	1.466	1.405	1.353	1.310	1.279	1.256	1.243	1.239	
0.50	2.040	2.047	2.053	2.058	2.063	2.066	2.068	2.069	
	0.266	0.275	0.283	0.291	0.299	0.304	0.308	0.309	
	0.177	0.170	0.155	0.134	0.106	0.073	0.037	0.000	
	0.353	0.333	0.316	0.303	0.293	0.286	0.282	0.281	
	1.462	1.401	1.349	1.306	1.274	1.252	1.238	1.234	

$$M_{\infty} = 4, \beta_{\kappa} = 10, \alpha = 5^{\circ}$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.55	2.042	2.048	2.055	2.060	2.064	2.068	2.070	2.070	
	0.259	0.269	0.277	0.286	0.293	0.299	0.303	0.304	
	0.174	0.167	0.152	0.131	0.104	0.072	0.036	0.000	
	0.351	0.331	0.315	0.301	0.291	0.284	0.280	0.279	
	1.457	1.396	1.344	1.302	1.269	1.246	1.233	1.229	
0.60	2.044	2.050	2.056	2.062	2.066	2.069	2.071	2.072	
	0.253	0.262	0.271	0.280	0.288	0.294	0.298	0.299	
	0.172	0.164	0.150	0.129	0.102	0.070	0.036	0.000	
	0.349	0.330	0.313	0.300	0.290	0.282	0.278	0.277	
	1.451	1.391	1.339	1.296	1.264	1.240	1.227	1.222	
0.65	2.045	2.052	2.058	2.063	2.067	2.071	2.073	2.073	
	0.246	0.256	0.266	0.275	0.283	0.288	0.292	0.294	
	0.169	0.162	0.147	0.127	0.100	0.069	0.035	0.000	
	0.347	0.328	0.311	0.298	0.288	0.280	0.276	0.275	
	1.444	1.385	1.333	1.290	1.257	1.234	1.220	1.216	
0.70	2.047	2.054	2.060	2.065	2.069	2.072	2.074	2.075	
	0.240	0.250	0.260	0.269	0.277	0.283	0.287	0.289	
	0.167	0.160	0.145	0.125	0.099	0.068	0.035	0.000	
	0.344	0.325	0.309	0.295	0.285	0.278	0.274	0.273	
	1.437	1.378	1.326	1.283	1.250	1.227	1.213	1.208	
0.75	2.049	2.055	2.061	2.067	2.071	2.074	2.076	2.077	
	0.233	0.244	0.254	0.263	0.272	0.278	0.282	0.283	
	0.166	0.158	0.144	0.124	0.098	0.068	0.034	0.000	
	0.341	0.323	0.306	0.293	0.283	0.276	0.271	0.270	
	1.429	1.370	1.318	1.275	1.243	1.219	1.205	1.200	
0.80	2.051	2.057	2.063	2.069	2.073	2.076	2.078	2.079	
	0.227	0.238	0.248	0.258	0.266	0.272	0.276	0.278	
	0.164	0.156	0.142	0.122	0.097	0.067	0.034	0.000	
	0.338	0.320	0.303	0.290	0.280	0.273	0.269	0.267	
	1.420	1.362	1.310	1.267	1.234	1.210	1.196	1.191	
0.85	2.053	2.059	2.065	2.071	2.075	2.078	2.080	2.081	
	0.220	0.231	0.242	0.252	0.260	0.266	0.270	0.272	
	0.162	0.155	0.141	0.121	0.096	0.066	0.034	0.000	
	0.335	0.317	0.300	0.287	0.277	0.270	0.265	0.264	
	1.410	1.352	1.300	1.257	1.224	1.199	1.185	1.181	
0.90	2.056	2.062	2.068	2.073	2.077	2.081	2.083	2.083	
	0.213	0.225	0.235	0.245	0.254	0.259	0.263	0.265	
	0.161	0.153	0.139	0.120	0.095	0.066	0.033	0.000	
	0.331	0.313	0.297	0.284	0.274	0.266	0.262	0.260	
	1.398	1.341	1.289	1.246	1.213	1.187	1.173	1.168	
0.95	2.058	2.064	2.070	2.075	2.080	2.084	2.086	2.086	
	0.206	0.218	0.228	0.238	0.246	0.251	0.255	0.257	
	0.160	0.152	0.138	0.119	0.094	0.065	0.033	0.000	
	0.327	0.309	0.293	0.280	0.269	0.261	0.257	0.256	
	1.386	1.329	1.276	1.233	1.199	1.172	1.158	1.153	
1.00	2.061	2.067	2.073	2.079	2.083	2.088	2.090	2.091	
	0.198	0.209	0.220	0.229	0.238	0.240	0.244	0.246	
	0.159	0.151	0.137	0.118	0.093	0.065	0.033	0.000	
	0.322	0.304	0.287	0.274	0.264	0.254	0.250	0.249	
	1.371	1.314	1.260	1.216	1.182	1.151	1.136	1.131	
F_x	0.337	0.347	0.357	0.366	0.374	0.383	0.387	0.389	

$$M_{\infty} = 4, \beta_k = 15^\circ, \alpha = 5^\circ$$

ξ	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.00	1.864	1.864	1.867	1.870	1.876	1.882	1.889	1.898	1.906
	0.499	0.499	0.500	0.501	0.502	0.504	0.506	0.508	0.510
	0.000	0.031	0.061	0.090	0.117	0.140	0.159	0.173	0.181
	0.792	0.787	0.772	0.749	0.718	0.682	0.642	0.602	0.563
0.05	2.516	2.505	2.470	2.415	2.342	2.255	2.159	2.060	1.963
	1.867	1.868	1.871	1.875	1.881	1.889	1.898	1.908	1.918
	0.486	0.486	0.487	0.488	0.490	0.492	0.495	0.498	0.501
	0.000	0.031	0.062	0.091	0.118	0.141	0.160	0.173	0.181
0.10	0.792	0.787	0.772	0.749	0.718	0.682	0.643	0.603	0.565
	2.516	2.505	2.473	2.422	2.355	2.275	2.186	2.094	2.003
	1.871	1.872	1.874	1.879	1.885	1.893	1.902	1.912	1.922
	0.473	0.473	0.474	0.476	0.478	0.480	0.483	0.487	0.490
0.15	0.000	0.031	0.062	0.091	0.118	0.141	0.159	0.173	0.181
	0.791	0.786	0.771	0.748	0.718	0.682	0.643	0.604	0.565
	2.513	2.502	2.471	2.422	2.356	2.278	2.191	2.100	2.010
	1.874	1.875	1.878	1.883	1.889	1.896	1.905	1.915	1.926
0.20	0.461	0.461	0.462	0.464	0.466	0.469	0.472	0.476	0.480
	0.000	0.031	0.062	0.091	0.118	0.140	0.159	0.172	0.180
	0.789	0.784	0.770	0.747	0.717	0.681	0.643	0.604	0.565
	2.509	2.499	2.468	2.420	2.355	2.278	2.193	2.103	2.013
0.25	1.878	1.879	1.881	1.886	1.892	1.900	1.909	1.918	1.929
	0.449	0.450	0.451	0.453	0.455	0.458	0.462	0.466	0.470
	0.000	0.031	0.062	0.091	0.117	0.140	0.158	0.171	0.178
	0.786	0.782	0.767	0.745	0.715	0.680	0.642	0.603	0.565
0.30	2.504	2.493	2.464	2.416	2.352	2.277	2.192	2.104	2.015
	1.881	1.882	1.885	1.889	1.895	1.903	1.912	1.922	1.932
	0.438	0.438	0.440	0.442	0.444	0.448	0.452	0.456	0.461
	0.000	0.031	0.062	0.091	0.117	0.140	0.158	0.170	0.177
0.35	0.783	0.779	0.765	0.742	0.713	0.678	0.641	0.602	0.564
	2.497	2.487	2.458	2.411	2.348	2.274	2.191	2.103	2.014
	1.884	1.885	1.888	1.892	1.899	1.906	1.915	1.925	1.935
	0.427	0.428	0.429	0.431	0.434	0.438	0.442	0.447	0.452
0.40	0.000	0.031	0.062	0.091	0.117	0.139	0.157	0.169	0.176
	0.780	0.775	0.761	0.739	0.710	0.676	0.639	0.600	0.563
	2.489	2.480	2.451	2.405	2.343	2.270	2.187	2.100	2.013
	1.887	1.888	1.891	1.896	1.902	1.909	1.918	1.928	1.938
0.45	0.417	0.417	0.419	0.421	0.424	0.428	0.433	0.438	0.443
	0.000	0.031	0.062	0.091	0.116	0.139	0.156	0.168	0.175
	0.776	0.771	0.758	0.736	0.707	0.673	0.636	0.598	0.561
	2.480	2.471	2.443	2.397	2.337	2.264	2.183	2.097	2.010
0.50	1.891	1.892	1.894	1.899	1.905	1.912	1.921	1.931	1.941
	0.406	0.407	0.408	0.411	0.414	0.419	0.423	0.429	0.434
	0.000	0.031	0.062	0.090	0.116	0.138	0.155	0.167	0.173
	0.772	0.767	0.753	0.732	0.703	0.670	0.634	0.596	0.559
0.55	2.471	2.461	2.434	2.389	2.329	2.258	2.177	2.092	2.005
	1.894	1.895	1.898	1.902	1.908	1.915	1.924	1.933	1.943
	0.396	0.397	0.398	0.401	0.405	0.409	0.415	0.420	0.426
	0.000	0.031	0.062	0.090	0.116	0.138	0.155	0.166	0.172
0.60	0.767	0.762	0.749	0.727	0.699	0.667	0.630	0.593	0.556
	2.460	2.451	2.423	2.380	2.321	2.250	2.171	2.086	2.000
	1.897	1.898	1.901	1.905	1.911	1.919	1.927	1.936	1.946
	0.386	0.387	0.389	0.392	0.396	0.400	0.406	0.412	0.418
0.65	0.000	0.031	0.062	0.090	0.115	0.137	0.154	0.165	0.171
	0.761	0.757	0.744	0.723	0.695	0.663	0.627	0.590	0.554
	2.448	2.439	2.412	2.369	2.312	2.242	2.164	2.080	1.994
	1.899	1.900	1.903	1.907	1.913	1.920	1.928	1.937	1.947

$$M_{\infty} = 4, \beta_{\kappa} = 15^{\circ}, \alpha = 5^{\circ}$$

ξ	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°330'	78°45'	90°00'
0.55	1.900	1.901	1.904	1.908	1.914	1.922	1.930	1.939	1.949
	0.377	0.377	0.379	0.382	0.387	0.392	0.397	0.404	0.410
	0.000	0.031	0.061	0.090	0.115	0.137	0.153	0.165	0.170
	0.756	0.751	0.738	0.718	0.691	0.658	0.623	0.587	0.551
	2.436	2.427	2.400	2.358	2.301	2.233	2.155	2.072	1.987
0.60	1.904	1.905	1.907	1.911	1.917	1.925	1.933	1.942	1.952
	0.367	0.368	0.370	0.373	0.378	0.383	0.389	0.396	0.403
	0.000	0.031	0.061	0.090	0.115	0.136	0.153	0.164	0.169
	0.750	0.746	0.733	0.712	0.686	0.654	0.619	0.583	0.547
	2.422	2.413	2.388	2.346	2.290	2.222	2.146	2.064	1.980
0.65	1.907	1.908	1.910	1.915	1.920	1.928	1.936	1.945	1.955
	0.358	0.359	0.361	0.364	0.369	0.374	0.381	0.388	0.395
	0.000	0.031	0.061	0.090	0.115	0.136	0.152	0.163	0.168
	0.744	0.739	0.727	0.707	0.680	0.649	0.615	0.579	0.544
	2.408	2.399	2.374	2.333	2.278	2.211	2.136	2.055	1.971
0.70	1.910	1.911	1.914	1.918	1.924	1.931	1.939	1.948	1.957
	0.349	0.349	0.352	0.355	0.360	0.366	0.373	0.380	0.387
	0.000	0.031	0.061	0.090	0.115	0.136	0.152	0.162	0.167
	0.737	0.733	0.720	0.701	0.675	0.644	0.610	0.575	0.540
	2.393	2.384	2.359	2.319	2.265	2.199	2.125	2.044	1.962
0.75	1.913	1.914	1.917	1.921	1.927	1.934	1.942	1.951	1.960
	0.339	0.340	0.342	0.346	0.351	0.358	0.365	0.372	0.380
	0.000	0.031	0.061	0.089	0.114	0.135	0.151	0.162	0.166
	0.730	0.726	0.713	0.694	0.669	0.638	0.605	0.570	0.535
	2.376	2.368	2.344	2.304	2.251	2.186	2.113	2.033	1.951
0.80	1.917	1.918	1.920	1.924	1.930	1.937	1.945	1.954	1.963
	0.330	0.331	0.333	0.337	0.343	0.349	0.357	0.364	0.373
	0.000	0.031	0.061	0.089	0.114	0.135	0.151	0.161	0.165
	0.722	0.718	0.706	0.687	0.662	0.632	0.600	0.565	0.531
	2.359	2.351	2.327	2.288	2.236	2.173	2.100	2.021	1.940
0.85	1.920	1.921	1.924	1.928	1.933	1.940	1.948	1.957	1.966
	0.321	0.322	0.324	0.328	0.334	0.341	0.349	0.357	0.365
	0.000	0.031	0.061	0.089	0.114	0.135	0.150	0.160	0.165
	0.714	0.710	0.699	0.680	0.655	0.626	0.594	0.560	0.526
	2.341	2.333	2.310	2.272	2.220	2.158	2.086	2.008	1.928
0.90	1.924	1.925	1.927	1.931	1.937	1.943	1.951	1.960	1.969
	0.311	0.312	0.315	0.319	0.325	0.332	0.340	0.349	0.357
	0.000	0.031	0.061	0.089	0.114	0.135	0.150	0.160	0.164
	0.706	0.702	0.690	0.672	0.648	0.619	0.587	0.554	0.520
	2.322	2.314	2.291	2.254	2.203	2.142	2.071	1.994	1.914
0.95	1.927	1.928	1.931	1.935	1.940	1.947	1.954	1.963	1.972
	0.302	0.303	0.306	0.310	0.316	0.324	0.332	0.341	0.350
	0.000	0.031	0.061	0.089	0.114	0.134	0.150	0.160	0.163
	0.697	0.693	0.682	0.664	0.640	0.612	0.581	0.548	0.515
	2.301	2.293	2.271	2.234	2.185	2.125	2.055	1.979	1.900
1.00	1.931	1.932	1.934	1.938	1.944	1.950	1.958	1.966	1.976
	0.292	0.293	0.296	0.301	0.307	0.315	0.324	0.332	0.341
	0.000	0.031	0.061	0.089	0.114	0.134	0.149	0.159	0.163
	0.687	0.684	0.673	0.655	0.632	0.604	0.573	0.541	0.508
	2.279	2.271	2.249	2.214	2.165	2.106	2.037	1.962	1.884
F_x	0.387	0.387	0.388	0.391	0.393	0.397	0.401	0.406	0.411

$$M_{\infty} = 4, \beta_{\kappa} = 15^{\circ}, \alpha = 5^{\circ}$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.00	1.915	1.924	1.933	1.940	1.947	1.952	1.955	1.975	1.956
	0.513	0.515	0.518	0.520	0.521	0.523	0.523	0.529	0.524
	0.183	0.177	0.163	0.142	0.114	0.079	0.041	0.000	0.000
	0.527	0.496	0.469	0.448	0.432	0.422	0.415	0.413	0.413
	1.869	1.785	1.714	1.656	1.613	1.583	1.565	1.636	1.560
0.05	1.929	1.940	1.950	1.959	1.967	1.973	1.977	1.978	
	0.504	0.508	0.511	0.514	0.516	0.518	0.519	0.520	
	0.182	0.176	0.163	0.141	0.113	0.079	0.040	0.000	
	0.529	0.497	0.470	0.449	0.433	0.422	0.415	0.413	
	1.917	1.840	1.774	1.721	1.682	1.655	1.640	1.635	
0.10	1.933	1.943	1.953	1.962	1.970	1.976	1.979	1.980	
	0.494	0.498	0.501	0.504	0.507	0.509	0.511	0.511	
	0.182	0.175	0.162	0.141	0.112	0.078	0.040	0.000	
	0.529	0.497	0.471	0.449	0.433	0.421	0.415	0.413	
	1.924	1.847	1.780	1.726	1.684	1.656	1.639	1.633	
0.15	1.936	1.947	1.957	1.965	1.973	1.978	1.981	1.983	
	0.484	0.488	0.492	0.495	0.498	0.501	0.502	0.503	
	0.180	0.174	0.160	0.139	0.111	0.077	0.040	0.000	
	0.529	0.498	0.471	0.449	0.432	0.421	0.414	0.412	
	1.928	1.850	1.783	1.727	1.684	1.654	1.637	1.631	
0.20	1.939	1.950	1.959	1.968	1.975	1.981	1.984	1.985	
	0.474	0.479	0.483	0.487	0.490	0.493	0.494	0.495	
	0.179	0.172	0.159	0.137	0.110	0.076	0.039	0.000	
	0.529	0.497	0.470	0.448	0.431	0.420	0.413	0.411	
	1.929	1.851	1.783	1.727	1.683	1.652	1.634	1.628	
0.25	1.942	1.953	1.962	1.971	1.978	1.983	1.986	1.987	
	0.465	0.470	0.475	0.479	0.482	0.485	0.487	0.487	
	0.177	0.171	0.157	0.136	0.108	0.075	0.038	0.000	
	0.528	0.497	0.469	0.447	0.430	0.418	0.411	0.409	
	1.929	1.851	1.782	1.725	1.680	1.649	1.630	1.623	
0.30	1.945	1.955	1.965	1.973	1.980	1.985	1.989	1.990	
	0.457	0.462	0.466	0.471	0.474	0.477	0.479	0.480	
	0.176	0.169	0.155	0.134	0.107	0.074	0.038	0.000	
	0.527	0.495	0.468	0.446	0.429	0.417	0.410	0.407	
	1.928	1.849	1.780	1.722	1.677	1.644	1.625	1.619	
0.35	1.948	1.958	1.968	1.976	1.983	1.988	1.991	1.992	
	0.448	0.453	0.459	0.463	0.467	0.470	0.472	0.473	
	0.174	0.167	0.153	0.133	0.105	0.073	0.037	0.000	
	0.526	0.494	0.467	0.444	0.427	0.415	0.408	0.405	
	1.925	1.846	1.777	1.718	1.672	1.639	1.620	1.613	
0.40	1.951	1.961	1.970	1.978	1.985	1.990	1.993	1.994	
	0.440	0.446	0.451	0.456	0.460	0.463	0.465	0.466	
	0.173	0.166	0.152	0.131	0.104	0.072	0.037	0.000	
	0.524	0.492	0.465	0.442	0.425	0.413	0.406	0.403	
	1.921	1.843	1.773	1.714	1.667	1.634	1.614	1.607	
0.45	1.954	1.963	1.973	1.981	1.988	1.993	1.996	1.997	
	0.432	0.438	0.444	0.449	0.453	0.456	0.458	0.459	
	0.172	0.164	0.150	0.129	0.103	0.071	0.036	0.000	
	0.522	0.490	0.463	0.440	0.423	0.411	0.403	0.401	
	1.916	1.838	1.768	1.708	1.661	1.627	1.607	1.600	
0.50	1.956	1.966	1.975	1.983	1.990	1.995	1.998	1.999	
	0.424	0.431	0.436	0.441	0.446	0.449	0.451	0.452	
	0.170	0.163	0.149	0.128	0.102	0.070	0.036	0.000	
	0.519	0.488	0.460	0.438	0.420	0.408	0.401	0.398	
	1.911	1.832	1.762	1.702	1.655	1.620	1.600	1.593	

$$M_{\infty} = 4, \beta_{\kappa} = 15^{\circ}, \alpha = 5^{\circ}$$

δ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.55	1.959 0.417 0.169 0.516 1.904	1.969 0.423 0.161 0.485 1.826	1.978 0.429 0.147 0.458 1.755	1.986 0.435 0.127 0.435 1.695	1.993 0.439 0.100 0.418 1.647	1.997 0.442 0.070 0.405 1.613	2.001 0.445 0.035 0.398 1.592	2.002 0.445 0.000 0.395 1.584	
0.60	1.962 0.409 0.168 0.513 1.897	1.971 0.416 0.160 0.482 1.819	1.980 0.422 0.146 0.455 1.748	1.988 0.428 0.125 0.432 1.688	1.995 0.432 0.099 0.415 1.639	2.000 0.436 0.069 0.402 1.604	2.003 0.438 0.035 0.395 1.583	2.004 0.439 0.000 0.392 1.576	
0.65	1.964 0.402 0.167 0.510 1.889	1.974 0.409 0.159 0.479 1.810	1.983 0.415 0.144 0.452 1.740	1.991 0.421 0.124 0.429 1.679	1.998 0.426 0.098 0.412 1.630	2.003 0.429 0.068 0.399 1.595	2.006 0.431 0.035 0.391 1.573	2.007 0.432 0.000 0.389 1.566	
0.70	1.967 0.395 0.166 0.506 1.879	1.977 0.402 0.158 0.475 1.802	1.986 0.408 0.143 0.448 1.731	1.994 0.414 0.123 0.426 1.670	2.000 0.419 0.097 0.408 1.621	2.005 0.422 0.067 0.395 1.585	2.008 0.425 0.034 0.388 1.563	2.009 0.425 0.000 0.385 1.556	
0.75	1.970 0.388 0.165 0.502 1.870	1.979 0.395 0.156 0.472 1.792	1.988 0.401 0.142 0.445 1.721	1.996 0.407 0.122 0.422 1.660	2.003 0.412 0.096 0.404 1.610	2.008 0.416 0.067 0.392 1.574	2.011 0.418 0.034 0.384 1.552	2.012 0.418 0.000 0.381 1.544	
0.80	1.973 0.380 0.164 0.498 1.859	1.982 0.388 0.155 0.467 1.781	1.991 0.395 0.141 0.441 1.710	1.999 0.400 0.121 0.418 1.649	2.006 0.405 0.095 0.400 1.599	2.011 0.409 0.066 0.387 1.562	2.014 0.411 0.034 0.380 1.540	2.015 0.411 0.000 0.377 1.532	
0.85	1.976 0.373 0.163 0.493 1.847	1.985 0.381 0.154 0.463 1.769	1.994 0.387 0.140 0.436 1.698	2.002 0.393 0.120 0.414 1.636	2.009 0.398 0.095 0.396 1.586	2.014 0.401 0.065 0.383 1.549	2.017 0.404 0.033 0.375 1.526	2.018 0.404 0.000 0.372 1.519	
0.90	1.979 0.366 0.162 0.488 1.834	1.988 0.373 0.153 0.458 1.757	1.997 0.380 0.139 0.431 1.685	2.005 0.386 0.119 0.409 1.623	2.012 0.391 0.094 0.391 1.572	2.017 0.394 0.065 0.378 1.535	2.020 0.396 0.033 0.370 1.512	2.021 0.397 0.000 0.367 1.504	
0.95	1.982 0.358 0.161 0.483 1.820	1.991 0.366 0.152 0.453 1.743	2.000 0.373 0.138 0.426 1.671	2.008 0.378 0.118 0.403 1.608	2.015 0.383 0.093 0.385 1.557	2.020 0.386 0.064 0.372 1.518	2.024 0.388 0.033 0.364 1.495	2.025 0.388 0.000 0.362 1.487	
1.00	1.985 0.350 0.160 0.476 1.804	1.994 0.358 0.152 0.447 1.727	2.004 0.365 0.137 0.420 1.655	2.012 0.370 0.117 0.397 1.591	2.019 0.374 0.092 0.379 1.539	2.024 0.377 0.064 0.366 1.500	2.028 0.379 0.032 0.357 1.476	2.029 0.379 0.000 0.355 1.467	
F_x	0.417	0.422	0.428	0.433	0.438	0.442	0.444	0.445	

$$M_{\infty} = 4, \beta_K = 15^{\circ}, \alpha = 10^{\circ}$$

ξ	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.00	1.786	1.788	1.792	1.799	1.808	1.820	1.835	1.851	1.868
	0.478	0.479	0.480	0.482	0.484	0.487	0.491	0.496	0.500
	0.000	0.057	0.113	0.166	0.217	0.262	0.302	0.335	0.360
	1.059	1.046	1.009	0.950	0.876	0.791	0.702	0.614	0.533
0.05	2.956	2.931	2.855	2.735	2.578	2.395	2.196	1.993	1.796
	1.790	1.792	1.797	1.805	1.816	1.829	1.845	1.863	1.883
	0.464	0.465	0.466	0.469	0.472	0.476	0.481	0.487	0.493
	0.000	0.057	0.113	0.167	0.217	0.262	0.301	0.333	0.355
0.10	1.058	1.045	1.009	0.951	0.878	0.794	0.706	0.619	0.538
	2.955	2.931	2.861	2.749	2.603	2.430	2.243	2.050	1.863
	1.794	1.795	1.800	1.809	1.820	1.834	1.850	1.869	1.889
	0.451	0.451	0.453	0.456	0.460	0.465	0.471	0.477	0.485
0.15	0.000	0.057	0.114	0.168	0.218	0.262	0.300	0.331	0.352
	1.057	1.044	1.008	0.952	0.879	0.796	0.709	0.623	0.543
	2.953	2.930	2.862	2.754	2.612	2.445	2.262	2.074	1.891
	1.797	1.799	1.804	1.813	1.824	1.838	1.855	1.873	1.893
0.20	0.438	0.439	0.441	0.444	0.448	0.454	0.461	0.468	0.476
	0.000	0.058	0.114	0.168	0.218	0.262	0.300	0.329	0.350
	1.054	1.042	1.007	0.951	0.879	0.798	0.712	0.627	0.548
	2.948	2.926	2.860	2.755	2.617	2.455	2.277	2.093	1.912
0.25	1.801	1.803	1.808	1.816	1.828	1.842	1.859	1.877	1.897
	0.425	0.426	0.428	0.432	0.437	0.443	0.451	0.459	0.468
	0.000	0.058	0.114	0.168	0.218	0.262	0.299	0.328	0.347
	1.051	1.039	1.004	0.949	0.879	0.799	0.714	0.630	0.551
0.30	2.943	2.921	2.857	2.755	2.621	2.462	2.288	2.108	1.930
	1.805	1.806	1.811	1.820	1.831	1.845	1.862	1.881	1.900
	0.413	0.414	0.417	0.421	0.426	0.433	0.442	0.451	0.461
	0.000	0.058	0.115	0.169	0.218	0.261	0.298	0.326	0.344
0.35	1.048	1.036	1.001	0.947	0.878	0.799	0.715	0.632	0.554
	2.936	2.914	2.852	2.753	2.622	2.467	2.297	2.120	1.945
	1.808	1.810	1.815	1.823	1.835	1.849	1.865	1.884	1.903
	0.401	0.402	0.405	0.410	0.416	0.424	0.433	0.443	0.454
0.40	0.000	0.058	0.115	0.169	0.218	0.261	0.297	0.324	0.342
	1.043	1.032	0.998	0.945	0.876	0.798	0.716	0.634	0.557
	2.927	2.907	2.846	2.750	2.622	2.471	2.304	2.130	1.957
	1.812	1.813	1.818	1.827	1.838	1.852	1.868	1.887	1.906
0.45	0.390	0.391	0.394	0.399	0.406	0.414	0.424	0.435	0.447
	0.000	0.058	0.115	0.169	0.218	0.261	0.296	0.323	0.340
	1.038	1.027	0.994	0.941	0.874	0.797	0.716	0.635	0.559
	2.918	2.898	2.839	2.745	2.620	2.473	2.309	2.138	1.967
0.50	1.815	1.817	1.822	1.830	1.841	1.855	1.872	1.889	1.909
	0.379	0.380	0.383	0.389	0.396	0.405	0.416	0.428	0.440
	0.000	0.058	0.116	0.170	0.218	0.261	0.296	0.321	0.337
	1.033	1.022	0.989	0.938	0.872	0.796	0.716	0.636	0.560
0.55	2.907	2.888	2.830	2.739	2.618	2.473	2.313	2.144	1.976
	1.818	1.820	1.825	1.833	1.845	1.858	1.874	1.892	1.911
	0.368	0.369	0.373	0.378	0.386	0.396	0.408	0.420	0.434
	0.000	0.059	0.116	0.170	0.219	0.261	0.295	0.320	0.335
0.60	1.027	1.016	0.984	0.933	0.868	0.794	0.715	0.636	0.561
	2.895	2.876	2.821	2.732	2.613	2.472	2.315	2.149	1.983
	1.822	1.824	1.829	1.837	1.848	1.861	1.877	1.895	1.914
	0.357	0.358	0.362	0.369	0.377	0.388	0.400	0.413	0.428
0.65	0.000	0.059	0.116	0.170	0.219	0.261	0.294	0.319	0.333
	1.020	1.010	0.978	0.929	0.865	0.792	0.714	0.636	0.562
	2.882	2.864	2.810	2.723	2.608	2.470	2.316	2.153	1.989

$$M_{\infty} = 4, \beta_{\kappa} = 15^{\circ}, \alpha = 10^{\circ}$$

ξ	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.55	1.825	1.827	1.832	1.840	1.851	1.864	1.880	1.897	1.916
	0.347	0.348	0.352	0.359	0.368	0.379	0.392	0.407	0.422
	0.000	0.059	0.117	0.171	0.219	0.261	0.294	0.318	0.331
	1.013	1.003	0.972	0.923	0.861	0.789	0.713	0.636	0.563
	2.869	2.851	2.798	2.714	2.602	2.467	2.316	2.156	1.993
0.60	1.829	1.830	1.835	1.843	1.854	1.867	1.883	1.900	1.918
	0.336	0.338	0.342	0.349	0.359	0.371	0.385	0.400	0.416
	0.000	0.059	0.117	0.171	0.219	0.261	0.293	0.317	0.329
	1.006	0.996	0.965	0.918	0.856	0.786	0.711	0.635	0.563
	2.854	2.837	2.786	2.704	2.594	2.463	2.315	2.157	1.997
0.65	1.832	1.834	1.839	1.847	1.857	1.870	1.885	1.902	1.920
	0.326	0.328	0.332	0.340	0.350	0.363	0.378	0.394	0.411
	0.000	0.060	0.118	0.172	0.220	0.261	0.293	0.316	0.328
	0.998	0.988	0.958	0.912	0.852	0.782	0.708	0.634	0.563
	2.838	2.821	2.772	2.692	2.586	2.457	2.312	2.158	1.999
0.70	1.836	1.837	1.842	1.850	1.860	1.873	1.888	1.905	1.922
	0.316	0.317	0.322	0.331	0.342	0.355	0.371	0.388	0.405
	0.000	0.060	0.118	0.172	0.220	0.261	0.293	0.315	0.326
	0.990	0.980	0.951	0.905	0.846	0.778	0.706	0.633	0.562
	2.821	2.805	2.757	2.680	2.576	2.451	2.309	2.157	2.000
0.75	1.839	1.841	1.846	1.853	1.863	1.876	1.891	1.907	1.925
	0.306	0.307	0.313	0.321	0.333	0.347	0.364	0.382	0.400
	0.000	0.060	0.118	0.173	0.221	0.261	0.293	0.314	0.325
	0.981	0.971	0.943	0.898	0.841	0.774	0.703	0.631	0.561
	2.803	2.788	2.741	2.667	2.566	2.444	2.305	2.155	2.001
0.80	1.843	1.844	1.849	1.856	1.866	1.879	1.893	1.909	1.927
	0.296	0.297	0.303	0.312	0.324	0.340	0.357	0.375	0.395
	0.000	0.060	0.119	0.173	0.221	0.261	0.292	0.313	0.323
	0.971	0.962	0.934	0.891	0.835	0.770	0.700	0.629	0.560
	2.785	2.769	2.725	2.652	2.554	2.435	2.300	2.153	2.000
0.85	1.847	1.848	1.852	1.860	1.870	1.882	1.896	1.912	1.929
	0.286	0.287	0.293	0.303	0.316	0.332	0.350	0.369	0.389
	0.000	0.061	0.119	0.174	0.222	0.262	0.292	0.313	0.322
	0.961	0.952	0.925	0.883	0.828	0.765	0.696	0.627	0.559
	2.765	2.750	2.707	2.637	2.542	2.426	2.293	2.149	1.999
0.90	1.850	1.852	1.856	1.863	1.873	1.885	1.899	1.914	1.931
	0.275	0.277	0.284	0.294	0.307	0.324	0.343	0.364	0.384
	0.000	0.061	0.120	0.174	0.222	0.262	0.292	0.312	0.321
	0.951	0.942	0.916	0.875	0.821	0.759	0.692	0.624	0.557
	2.743	2.729	2.688	2.620	2.528	2.416	2.286	2.145	1.996
0.95	1.854	1.855	1.860	1.867	1.876	1.888	1.901	1.917	1.933
	0.265	0.267	0.274	0.285	0.299	0.316	0.336	0.358	0.379
	0.000	0.061	0.120	0.175	0.223	0.263	0.292	0.312	0.320
	0.940	0.931	0.906	0.866	0.814	0.753	0.688	0.621	0.555
	2.721	2.708	2.668	2.602	2.513	2.404	2.278	2.139	1.993
1.00	1.858	1.859	1.863	1.870	1.879	1.891	1.904	1.919	1.935
	0.255	0.257	0.264	0.275	0.290	0.309	0.329	0.352	0.374
	0.000	0.061	0.121	0.176	0.224	0.263	0.293	0.311	0.319
	0.928	0.920	0.895	0.856	0.806	0.747	0.683	0.617	0.553
	2.697	2.684	2.646	2.583	2.497	2.391	2.268	2.133	1.989
F_x	0.375	0.375	0.377	0.381	0.385	0.391	0.399	0.408	0.418

$$M_{\infty} = 4, \beta_k = 15^\circ, \alpha = 10^\circ$$

ξ	θ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.00	1.886	1.905	1.923	1.940	1.955	1.966	1.972	2.011	1.974
	0.505	0.510	0.515	0.520	0.523	0.526	0.528	0.539	0.529
	0.373	0.374	0.357	0.320	0.260	0.180	0.090	0.000	0.000
	0.461	0.403	0.358	0.329	0.313	0.307	0.305	0.304	0.304
	1.616	1.461	1.340	1.256	1.210	1.190	1.183	1.308	1.183
0.05	1.904	1.926	1.947	1.967	1.985	1.999	2.009	2.012	
	0.500	0.507	0.513	0.520	0.526	0.532	0.535	0.536	
	0.367	0.365	0.347	0.310	0.252	0.178	0.092	0.000	
	0.467	0.408	0.364	0.334	0.316	0.308	0.305	0.304	
	1.691	1.542	1.426	1.348	1.309	1.299	1.304	1.308	
0.10	1.910	1.932	1.953	1.972	1.989	2.002	2.010	2.013	
	0.492	0.500	0.508	0.515	0.522	0.528	0.533	0.534	
	0.363	0.360	0.342	0.305	0.249	0.176	0.091	0.000	
	0.473	0.414	0.369	0.337	0.319	0.309	0.305	0.304	
	1.721	1.574	1.457	1.376	1.332	1.314	1.308	1.307	
0.15	1.914	1.936	1.957	1.976	1.992	2.004	2.011	2.014	
	0.485	0.493	0.502	0.510	0.518	0.525	0.530	0.531	
	0.359	0.356	0.337	0.300	0.245	0.173	0.089	0.000	
	0.477	0.418	0.373	0.341	0.321	0.310	0.305	0.304	
	1.745	1.598	1.480	1.395	1.346	1.321	1.310	1.307	
0.20	1.918	1.939	1.960	1.978	1.994	2.005	2.012	2.014	
	0.478	0.487	0.496	0.505	0.514	0.522	0.527	0.529	
	0.355	0.351	0.332	0.295	0.240	0.169	0.087	0.000	
	0.481	0.422	0.376	0.343	0.323	0.311	0.305	0.304	
	1.764	1.617	1.497	1.410	1.355	1.325	1.310	1.306	
0.25	1.921	1.942	1.962	1.980	1.996	2.007	2.013	2.015	
	0.471	0.481	0.491	0.501	0.510	0.518	0.524	0.526	
	0.352	0.347	0.327	0.290	0.236	0.166	0.085	0.000	
	0.485	0.426	0.379	0.346	0.324	0.311	0.305	0.303	
	1.780	1.633	1.512	1.421	1.362	1.327	1.310	1.304	
0.30	1.924	1.944	1.964	1.982	1.997	2.008	2.014	2.016	
	0.465	0.476	0.486	0.496	0.506	0.514	0.521	0.523	
	0.348	0.343	0.322	0.285	0.231	0.163	0.084	0.000	
	0.487	0.429	0.382	0.348	0.325	0.312	0.305	0.303	
	1.794	1.647	1.524	1.430	1.367	1.329	1.309	1.303	
0.35	1.926	1.947	1.966	1.984	1.999	2.009	2.015	2.017	
	0.459	0.470	0.481	0.492	0.502	0.511	0.517	0.520	
	0.345	0.338	0.317	0.281	0.227	0.159	0.082	0.000	
	0.490	0.431	0.384	0.349	0.326	0.312	0.304	0.302	
	1.805	1.658	1.534	1.437	1.371	1.330	1.307	1.300	
0.40	1.929	1.949	1.968	1.986	2.000	2.010	2.017	2.019	
	0.453	0.465	0.477	0.488	0.498	0.507	0.514	0.516	
	0.342	0.335	0.313	0.276	0.223	0.156	0.080	0.000	
	0.492	0.433	0.386	0.351	0.326	0.311	0.304	0.301	
	1.815	1.668	1.542	1.443	1.373	1.329	1.305	1.298	
0.45	1.931	1.951	1.970	1.987	2.001	2.012	2.018	2.020	
	0.447	0.460	0.473	0.484	0.495	0.504	0.510	0.513	
	0.339	0.331	0.309	0.272	0.219	0.154	0.079	0.000	
	0.494	0.435	0.388	0.352	0.327	0.311	0.303	0.300	
	1.823	1.676	1.549	1.448	1.375	1.329	1.303	1.295	
0.50	1.933	1.953	1.972	1.989	2.003	2.013	2.019	2.021	
	0.442	0.456	0.468	0.480	0.491	0.500	0.507	0.509	
	0.336	0.327	0.305	0.268	0.216	0.151	0.077	0.000	
	0.495	0.437	0.389	0.352	0.327	0.310	0.302	0.299	
	1.830	1.683	1.555	1.451	1.376	1.327	1.300	1.291	

$$M_{\infty} = 4, \beta_k = 15^\circ, \alpha = 10^\circ$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.55	1.935	1.955	1.973	1.990	2.024	2.015	2.021	2.023	
	0.437	0.451	0.464	0.476	0.487	0.497	0.503	0.506	
	0.333	0.324	0.301	0.264	0.212	0.148	0.076	0.000	
	0.496	0.438	0.390	0.353	0.327	0.310	0.301	0.298	
	1.835	1.689	1.560	1.454	1.376	1.325	1.296	1.287	
0.60	1.937	1.956	1.975	1.992	2.006	2.016	2.022	2.024	
	0.432	0.447	0.461	0.473	0.484	0.493	0.499	0.502	
	0.331	0.320	0.297	0.260	0.209	0.146	0.075	0.000	
	0.497	0.439	0.391	0.353	0.326	0.309	0.299	0.296	
	1.840	1.693	1.563	1.456	1.376	1.322	1.292	1.282	
0.65	1.939	1.958	1.976	1.993	2.007	2.018	2.024	2.026	
	0.427	0.443	0.457	0.469	0.480	0.489	0.495	0.498	
	0.328	0.317	0.293	0.256	0.206	0.144	0.074	0.000	
	0.497	0.440	0.391	0.353	0.326	0.307	0.298	0.294	
	1.843	1.697	1.566	1.457	1.374	1.319	1.287	1.277	
0.70	1.941	1.960	1.978	1.995	2.009	2.019	2.026	2.028	
	0.422	0.439	0.453	0.465	0.476	0.485	0.491	0.494	
	0.326	0.314	0.290	0.253	0.203	0.142	0.073	0.000	
	0.497	0.440	0.391	0.353	0.325	0.306	0.296	0.292	
	1.846	1.700	1.568	1.457	1.372	1.314	1.281	1.271	
0.75	1.943	1.961	1.980	1.996	2.011	2.021	2.028	2.030	
	0.418	0.435	0.449	0.462	0.472	0.481	0.487	0.489	
	0.324	0.311	0.287	0.250	0.200	0.140	0.072	0.000	
	0.497	0.440	0.391	0.353	0.324	0.304	0.294	0.290	
	1.848	1.702	1.569	1.457	1.370	1.309	1.275	1.264	
0.80	1.945	1.963	1.981	1.998	2.012	2.023	2.030	2.032	
	0.413	0.431	0.446	0.458	0.468	0.476	0.482	0.484	
	0.322	0.309	0.284	0.247	0.197	0.138	0.071	0.000	
	0.497	0.440	0.391	0.352	0.322	0.302	0.291	0.288	
	1.848	1.703	1.570	1.456	1.366	1.303	1.267	1.256	
0.85	1.947	1.965	1.983	2.000	2.014	2.025	2.032	2.034	
	0.409	0.427	0.442	0.454	0.464	0.472	0.477	0.479	
	0.320	0.306	0.281	0.243	0.194	0.136	0.070	0.000	
	0.496	0.439	0.391	0.351	0.321	0.300	0.288	0.285	
	1.848	1.703	1.569	1.454	1.362	1.296	1.258	1.246	
0.90	1.948	1.967	1.984	2.001	2.016	2.028	2.035	2.037	
	0.404	0.423	0.438	0.451	0.460	0.467	0.471	0.473	
	0.318	0.304	0.278	0.241	0.192	0.134	0.069	0.000	
	0.495	0.439	0.390	0.350	0.319	0.297	0.285	0.281	
	1.847	1.702	1.568	1.451	1.356	1.288	1.248	1.235	
0.95	1.950	1.968	1.986	2.003	2.019	2.031	2.038	2.041	
	0.400	0.419	0.434	0.447	0.455	0.461	0.465	0.466	
	0.316	0.301	0.275	0.238	0.189	0.132	0.068	0.000	
	0.494	0.438	0.389	0.348	0.316	0.294	0.281	0.277	
	1.845	1.701	1.566	1.447	1.350	1.278	1.235	1.221	
1.00	1.952	1.970	1.988	2.005	2.021	2.034	2.042	2.045	
	0.395	0.414	0.430	0.442	0.450	0.454	0.457	0.457	
	0.315	0.299	0.272	0.235	0.187	0.130	0.067	0.000	
	0.492	0.436	0.387	0.346	0.313	0.290	0.275	0.271	
	1.842	1.699	1.563	1.442	1.342	1.265	1.218	1.202	
F_x	0.430	0.444	0.457	0.471	0.484	0.495	0.502	0.504	

$$M_{\infty} = 4, \beta_k = 20^\circ, \alpha = 5^\circ$$

ξ	θ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.00	1.727	1.728	1.730	1.735	1.740	1.747	1.756	1.765	1.774
	0.628	0.629	0.630	0.631	0.633	0.636	0.639	0.642	0.646
	0.000	0.027	0.054	0.079	0.102	0.121	0.137	0.149	0.154
	1.090	1.084	1.065	1.037	0.999	0.955	0.906	0.856	0.806
	2.993	2.981	2.945	2.887	2.810	2.719	2.618	2.512	2.405
0.05	1.731	1.733	1.736	1.742	1.749	1.759	1.770	1.782	1.796
	0.616	0.617	0.618	0.620	0.623	0.627	0.631	0.636	0.641
	0.000	0.028	0.056	0.082	0.105	0.126	0.142	0.153	0.159
	1.089	1.083	1.065	1.037	0.999	0.955	0.907	0.856	0.807
	2.992	2.982	2.951	2.901	2.836	2.758	2.671	2.580	2.489
0.10	1.736	1.737	1.740	1.746	1.754	1.764	1.775	1.787	1.801
	0.605	0.605	0.607	0.609	0.612	0.616	0.621	0.626	0.631
	0.000	0.029	0.057	0.084	0.108	0.128	0.145	0.156	0.162
	1.088	1.082	1.064	1.036	0.999	0.955	0.906	0.856	0.807
	2.990	2.980	2.950	2.902	2.838	2.762	2.677	2.587	2.498
0.15	1.740	1.741	1.745	1.750	1.758	1.768	1.780	1.792	1.805
	0.594	0.594	0.596	0.598	0.602	0.606	0.611	0.616	0.621
	0.000	0.029	0.058	0.085	0.109	0.130	0.146	0.158	0.164
	1.086	1.080	1.062	1.034	0.997	0.953	0.905	0.856	0.806
	2.986	2.976	2.947	2.900	2.837	2.763	2.679	2.591	2.502
0.20	1.744	1.745	1.749	1.755	1.763	1.772	1.784	1.796	1.809
	0.583	0.584	0.585	0.588	0.591	0.596	0.601	0.606	0.612
	0.000	0.030	0.059	0.086	0.110	0.131	0.148	0.159	0.165
	1.083	1.077	1.060	1.032	0.995	0.952	0.904	0.855	0.805
	2.981	2.971	2.943	2.897	2.835	2.762	2.679	2.592	2.503
0.25	1.748	1.749	1.753	1.759	1.767	1.777	1.788	1.800	1.813
	0.573	0.573	0.575	0.578	0.581	0.586	0.591	0.597	0.603
	0.000	0.030	0.059	0.087	0.111	0.132	0.149	0.160	0.166
	1.080	1.074	1.057	1.029	0.993	0.950	0.902	0.853	0.804
	2.975	2.965	2.937	2.892	2.832	2.759	2.678	2.591	2.503
0.30	1.752	1.753	1.757	1.763	1.771	1.781	1.792	1.804	1.817
	0.563	0.563	0.565	0.568	0.572	0.577	0.582	0.588	0.594
	0.000	0.030	0.060	0.087	0.112	0.133	0.150	0.161	0.167
	1.076	1.070	1.053	1.026	0.990	0.947	0.900	0.851	0.802
	2.967	2.958	2.930	2.886	2.827	2.755	2.675	2.589	2.501
0.35	1.756	1.758	1.761	1.767	1.775	1.785	1.796	1.808	1.821
	0.553	0.553	0.555	0.558	0.562	0.567	0.573	0.579	0.586
	0.000	0.030	0.060	0.088	0.113	0.134	0.151	0.162	0.167
	1.072	1.066	1.049	1.022	0.986	0.943	0.897	0.848	0.800
	2.959	2.950	2.923	2.879	2.821	2.750	2.670	2.585	2.498
0.40	1.760	1.762	1.765	1.771	1.779	1.788	1.800	1.812	1.825
	0.543	0.543	0.545	0.549	0.553	0.558	0.564	0.571	0.577
	0.000	0.031	0.061	0.089	0.114	0.135	0.151	0.162	0.168
	1.067	1.061	1.044	1.017	0.982	0.940	0.893	0.845	0.797
	2.949	2.940	2.914	2.871	2.813	2.744	2.665	2.580	2.494
0.45	1.764	1.766	1.769	1.775	1.783	1.792	1.803	1.815	1.828
	0.533	0.534	0.536	0.539	0.544	0.549	0.555	0.562	0.569
	0.000	0.031	0.061	0.089	0.114	0.135	0.152	0.163	0.168
	1.061	1.056	1.039	1.012	0.977	0.936	0.890	0.842	0.794
	2.939	2.930	2.904	2.862	2.805	2.736	2.658	2.575	2.488
0.50	1.768	1.770	1.773	1.779	1.787	1.796	1.807	1.819	1.832
	0.524	0.525	0.527	0.530	0.535	0.541	0.547	0.554	0.561
	0.000	0.031	0.061	0.090	0.115	0.136	0.152	0.163	0.168
	1.055	1.050	1.033	1.007	0.972	0.931	0.885	0.838	0.790
	2.927	2.919	2.893	2.851	2.796	2.728	2.651	2.568	2.482

$$M_{\infty} = 4, \beta_{\kappa} = 20^{\circ}, \alpha = 5^{\circ}$$

ξ	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.55	1.772	1.774	1.777	1.783	1.790	1.800	1.811	1.823	1.835
	0.515	0.515	0.518	0.521	0.526	0.532	0.539	0.546	0.553
	0.000	0.031	0.062	0.090	0.115	0.136	0.153	0.164	0.169
	1.049	1.043	1.027	1.001	0.967	0.926	0.881	0.833	0.786
	2.915	2.906	2.881	2.840	2.785	2.718	2.642	2.560	2.474
0.60	1.776	1.778	1.781	1.787	1.794	1.804	1.815	1.826	1.839
	0.505	0.506	0.509	0.512	0.517	0.524	0.530	0.538	0.546
	0.000	0.031	0.062	0.090	0.116	0.137	0.153	0.164	0.169
	1.042	1.037	1.021	0.995	0.961	0.920	0.876	0.829	0.782
	2.901	2.893	2.868	2.828	2.774	2.708	2.633	2.551	2.466
0.65	1.781	1.782	1.785	1.791	1.798	1.808	1.818	1.830	1.842
	0.496	0.497	0.500	0.504	0.509	0.515	0.522	0.530	0.538
	0.000	0.031	0.062	0.091	0.116	0.137	0.153	0.164	0.169
	1.035	1.029	1.014	0.988	0.954	0.915	0.870	0.824	0.777
	2.887	2.879	2.855	2.815	2.762	2.697	2.622	2.541	2.457
0.70	1.785	1.786	1.789	1.795	1.802	1.811	1.822	1.834	1.846
	0.487	0.488	0.491	0.495	0.500	0.507	0.514	0.522	0.530
	0.000	0.032	0.062	0.091	0.116	0.138	0.154	0.164	0.169
	1.027	1.022	1.006	0.981	0.948	0.908	0.864	0.818	0.772
	2.872	2.864	2.840	2.801	2.749	2.684	2.611	2.531	2.447
0.75	1.789	1.790	1.793	1.799	1.806	1.815	1.826	1.837	1.850
	0.479	0.479	0.482	0.486	0.492	0.499	0.506	0.515	0.523
	0.000	0.032	0.063	0.091	0.117	0.138	0.154	0.164	0.169
	1.019	1.013	0.998	0.973	0.941	0.902	0.858	0.813	0.767
	2.856	2.848	2.824	2.786	2.734	2.671	2.599	2.519	2.436
0.80	1.793	1.794	1.797	1.803	1.810	1.819	1.830	1.841	1.853
	0.470	0.471	0.473	0.478	0.483	0.491	0.498	0.507	0.515
	0.000	0.032	0.063	0.092	0.117	0.138	0.154	0.165	0.169
	1.010	1.005	0.990	0.965	0.933	0.894	0.852	0.807	0.761
	2.838	2.831	2.808	2.770	2.719	2.657	2.585	2.507	2.424
0.85	1.797	1.798	1.802	1.807	1.814	1.823	1.833	1.845	1.857
	0.461	0.462	0.465	0.469	0.475	0.482	0.491	0.499	0.508
	0.000	0.032	0.063	0.092	0.117	0.139	0.155	0.165	0.169
	1.001	0.996	0.981	0.957	0.925	0.887	0.845	0.800	0.755
	2.820	2.812	2.790	2.753	2.703	2.642	2.571	2.493	2.411
0.90	1.801	1.803	1.806	1.811	1.818	1.827	1.837	1.849	1.861
	0.452	0.453	0.456	0.460	0.467	0.474	0.483	0.491	0.500
	0.000	0.032	0.063	0.092	0.118	0.139	0.155	0.165	0.169
	0.991	0.986	0.971	0.948	0.916	0.879	0.837	0.793	0.748
	2.801	2.793	2.771	2.735	2.686	2.626	2.556	2.479	2.397
0.95	1.806	1.807	1.810	1.815	1.822	1.831	1.841	1.853	1.865
	0.443	0.444	0.447	0.452	0.458	0.466	0.475	0.484	0.493
	0.000	0.032	0.064	0.093	0.118	0.139	0.155	0.165	0.169
	0.980	0.976	0.961	0.938	0.907	0.870	0.829	0.786	0.741
	2.780	2.773	2.751	2.716	2.668	2.608	2.539	2.463	2.382
1.00	1.810	1.811	1.815	1.820	1.827	1.835	1.846	1.857	1.868
	0.434	0.435	0.438	0.443	0.449	0.457	0.466	0.476	0.485
	0.000	0.032	0.064	0.093	0.118	0.139	0.155	0.165	0.169
	0.969	0.965	0.951	0.928	0.897	0.861	0.821	0.778	0.734
	2.758	2.751	2.730	2.695	2.648	2.590	2.522	2.446	2.366
F_x	0.494	0.494	0.495	0.497	0.498	0.501	0.504	0.507	0.510

$$M_{\infty} = 4, \beta_{\kappa} = 20^{\circ}, \alpha = 5^{\circ}$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.00	1.784	1.794	1.803	1.811	1.818	1.823	1.826	1.867	1.827
	0.649	0.653	0.656	0.659	0.661	0.663	0.664	0.679	0.665
	0.155	0.149	0.136	0.118	0.094	0.065	0.033	0.000	0.000
	0.759	0.717	0.681	0.651	0.628	0.611	0.602	0.599	0.599
	2.303	2.209	2.126	2.057	2.003	1.965	1.942	2.106	1.934
0.05	1.809	1.823	1.835	1.847	1.857	1.864	1.869	1.870	
	0.639	0.651	0.656	0.661	0.664	0.667	0.669	0.669	
	0.159	0.152	0.140	0.121	0.096	0.067	0.034	0.000	
	0.760	0.718	0.681	0.651	0.628	0.611	0.602	0.598	
	2.403	2.324	2.256	2.200	2.158	2.128	2.111	2.105	
0.10	1.814	1.828	1.840	1.851	1.861	1.868	1.872	1.874	
	0.637	0.642	0.647	0.651	0.655	0.658	0.660	0.660	
	0.162	0.155	0.142	0.123	0.098	0.068	0.035	0.000	
	0.760	0.718	0.681	0.651	0.627	0.611	0.601	0.598	
	2.411	2.332	2.263	2.205	2.160	2.128	2.109	2.103	
0.15	1.819	1.832	1.844	1.855	1.864	1.871	1.876	1.877	
	0.627	0.633	0.638	0.642	0.646	0.649	0.651	0.652	
	0.164	0.157	0.144	0.124	0.099	0.069	0.035	0.000	
	0.760	0.718	0.681	0.650	0.627	0.610	0.600	0.596	
	2.415	2.336	2.266	2.207	2.160	2.127	2.107	2.100	
0.20	1.823	1.836	1.848	1.859	1.868	1.875	1.879	1.880	
	0.618	0.624	0.629	0.634	0.638	0.641	0.643	0.643	
	0.165	0.158	0.145	0.125	0.099	0.069	0.035	0.000	
	0.759	0.717	0.680	0.649	0.625	0.608	0.598	0.595	
	2.417	2.337	2.266	2.206	2.158	2.124	2.103	2.096	
0.25	1.827	1.840	1.852	1.862	1.871	1.878	1.882	1.884	
	0.609	0.615	0.621	0.625	0.630	0.633	0.635	0.635	
	0.166	0.159	0.145	0.125	0.100	0.069	0.035	0.000	
	0.758	0.715	0.678	0.648	0.624	0.606	0.596	0.593	
	2.417	2.337	2.265	2.204	2.155	2.120	2.099	2.092	
0.30	1.830	1.843	1.855	1.866	1.875	1.881	1.885	1.887	
	0.601	0.607	0.612	0.617	0.622	0.625	0.627	0.627	
	0.166	0.159	0.145	0.125	0.100	0.069	0.035	0.000	
	0.756	0.713	0.676	0.646	0.622	0.604	0.594	0.591	
	2.415	2.335	2.262	2.201	2.151	2.115	2.094	2.086	
0.35	1.834	1.947	1.859	1.869	1.878	1.885	1.889	1.890	
	0.592	0.598	0.604	0.610	0.614	0.617	0.619	0.620	
	0.167	0.159	0.145	0.125	0.100	0.069	0.035	0.000	
	0.753	0.711	0.674	0.643	0.619	0.602	0.592	0.588	
	2.412	2.331	2.259	2.196	2.146	2.110	2.087	2.080	
0.40	1.838	1.850	1.862	1.873	1.881	1.888	1.892	1.893	
	0.584	0.591	0.597	0.602	0.606	0.610	0.612	0.612	
	0.167	0.159	0.145	0.125	0.099	0.069	0.035	0.000	
	0.751	0.709	0.672	0.641	0.617	0.599	0.589	0.585	
	2.408	2.327	2.254	2.191	2.140	2.103	2.080	2.073	
0.45	1.841	1.854	1.866	1.876	1.885	1.891	1.895	1.896	
	0.576	0.583	0.589	0.594	0.599	0.602	0.604	0.605	
	0.167	0.159	0.145	0.125	0.099	0.069	0.035	0.000	
	0.748	0.706	0.669	0.638	0.614	0.596	0.586	0.582	
	2.403	2.322	2.248	2.185	2.133	2.096	2.073	2.065	
0.50	1.845	1.857	1.869	1.879	1.888	1.894	1.898	1.900	
	0.568	0.575	0.581	0.587	0.592	0.595	0.597	0.598	
	0.167	0.159	0.145	0.125	0.099	0.068	0.035	0.000	
	0.745	0.703	0.666	0.635	0.610	0.593	0.582	0.579	
	2.397	2.316	2.242	2.178	2.126	2.087	2.064	2.056	

$$M_{\infty} = 4, \beta_{\kappa} = 20^{\circ}, \alpha = 5^{\circ}$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.55	1.848	1.861	1.872	1.883	1.891	1.897	1.901	1.903	
	0.561	0.568	0.574	0.580	0.585	0.588	0.590	0.591	
	0.167	0.159	0.145	0.124	0.098	0.068	0.035	0.000	
	0.741	0.699	0.662	0.631	0.607	0.589	0.578	0.575	
	2.389	2.308	2.234	2.170	2.117	2.079	2.055	2.047	
0.60	1.852	1.864	1.876	1.886	1.894	1.901	1.905	1.906	
	0.553	0.560	0.567	0.573	0.577	0.581	0.583	0.584	
	0.167	0.159	0.144	0.124	0.098	0.068	0.035	0.000	
	0.737	0.695	0.658	0.627	0.603	0.585	0.574	0.571	
	2.381	2.300	2.226	2.161	2.108	2.069	2.045	2.037	
0.65	1.855	1.867	1.879	1.889	1.898	1.904	1.908	1.909	
	0.546	0.553	0.560	0.566	0.570	0.574	0.576	0.577	
	0.167	0.159	0.144	0.124	0.098	0.068	0.034	0.000	
	0.732	0.691	0.654	0.623	0.599	0.581	0.570	0.566	
	2.373	2.291	2.217	2.151	2.098	2.059	2.034	2.026	
0.70	1.859	1.871	1.882	1.893	1.901	1.907	1.911	1.913	
	0.538	0.546	0.553	0.559	0.563	0.567	0.569	0.570	
	0.167	0.158	0.144	0.123	0.097	0.067	0.034	0.000	
	0.728	0.686	0.650	0.619	0.594	0.576	0.565	0.562	
	2.363	2.282	2.207	2.141	2.087	2.047	2.023	2.015	
0.75	1.862	1.874	1.886	1.896	1.904	1.911	1.915	1.916	
	0.531	0.539	0.546	0.552	0.556	0.560	0.562	0.563	
	0.167	0.158	0.143	0.123	0.097	0.067	0.034	0.000	
	0.723	0.682	0.645	0.614	0.589	0.571	0.561	0.557	
	2.352	2.271	2.196	2.130	2.075	2.035	2.010	2.002	
0.80	1.866	1.878	1.889	1.899	1.908	1.914	1.918	1.920	
	0.524	0.532	0.539	0.545	0.549	0.553	0.555	0.556	
	0.167	0.158	0.143	0.122	0.097	0.067	0.034	0.000	
	0.717	0.676	0.640	0.609	0.584	0.566	0.555	0.552	
	2.340	2.259	2.184	2.118	2.063	2.022	1.997	1.989	
0.85	1.869	1.881	1.893	1.903	1.911	1.918	1.922	1.923	
	0.517	0.525	0.532	0.538	0.542	0.546	0.548	0.549	
	0.166	0.158	0.143	0.122	0.096	0.066	0.034	0.000	
	0.711	0.671	0.634	0.603	0.579	0.561	0.550	0.546	
	2.328	2.247	2.171	2.104	2.049	2.008	1.983	1.974	
0.90	1.873	1.885	1.896	1.907	1.915	1.922	1.926	1.927	
	0.509	0.517	0.524	0.530	0.535	0.539	0.541	0.541	
	0.166	0.157	0.142	0.122	0.096	0.066	0.034	0.000	
	0.705	0.665	0.628	0.597	0.573	0.554	0.543	0.540	
	2.314	2.233	2.157	2.090	2.035	1.993	1.967	1.959	
0.95	1.877	1.889	1.900	1.910	1.919	1.926	1.930	1.931	
	0.502	0.510	0.517	0.523	0.528	0.531	0.533	0.534	
	0.166	0.157	0.142	0.121	0.095	0.066	0.033	0.000	
	0.698	0.658	0.622	0.591	0.566	0.548	0.537	0.533	
	2.300	2.219	2.143	2.075	2.019	1.977	1.951	1.942	
1.00	1.881	1.893	1.904	1.914	1.923	1.930	1.934	1.935	
	0.494	0.502	0.510	0.516	0.520	0.523	0.525	0.526	
	0.166	0.157	0.142	0.121	0.095	0.065	0.033	0.000	
	0.691	0.651	0.615	0.584	0.559	0.541	0.530	0.526	
	2.284	2.203	2.126	2.058	2.001	1.959	1.932	1.923	
F_x	0.514	0.518	0.521	0.524	0.527	0.529	0.530	0.530	

$$M_{\infty} = 4, \beta_{\kappa} = 20^{\circ}, \alpha = 10^{\circ}$$

ξ	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.00	1.635	1.637	1.642	1.650	1.661	1.675	1.691	1.710	1.729
	0.595	0.596	0.597	0.600	0.604	0.609	0.615	0.622	0.629
	0.000	0.052	0.102	0.151	0.196	0.236	0.270	0.297	0.315
	1.401	1.386	1.343	1.275	1.187	1.087	0.979	0.872	0.771
	3.379	3.352	3.277	3.157	2.999	2.813	2.609	2.400	2.194
0.05	1.640	1.642	1.648	1.659	1.673	1.690	1.710	1.733	1.758
	0.582	0.583	0.586	0.589	0.595	0.602	0.610	0.619	0.628
	0.000	0.054	0.105	0.154	0.200	0.241	0.274	0.300	0.317
	1.401	1.385	1.343	1.276	1.189	1.089	0.982	0.876	0.775
	3.378	3.354	3.287	3.180	3.038	2.870	2.687	2.496	2.309
0.10	1.645	1.647	1.653	1.664	1.678	1.696	1.717	1.741	1.766
	0.570	0.571	0.574	0.578	0.584	0.591	0.600	0.610	0.624
	0.000	0.054	0.107	0.157	0.204	0.244	0.278	0.304	0.320
	1.399	1.384	1.342	1.276	1.189	1.090	0.984	0.879	0.778
	3.375	3.353	3.288	3.185	3.049	2.887	2.708	2.523	2.340
0.15	1.649	1.651	1.658	1.669	1.684	1.702	1.723	1.747	1.772
	0.558	0.559	0.562	0.567	0.573	0.581	0.591	0.601	0.612
	0.000	0.055	0.109	0.160	0.206	0.247	0.281	0.307	0.323
	1.397	1.382	1.340	1.274	1.189	1.091	0.986	0.881	0.781
	3.372	3.350	3.287	3.188	3.055	2.898	2.724	2.543	2.363
0.20	1.654	1.656	1.663	1.673	1.688	1.707	1.728	1.752	1.777
	0.546	0.548	0.551	0.556	0.563	0.571	0.581	0.593	0.604
	0.000	0.056	0.110	0.162	0.209	0.250	0.284	0.309	0.324
	1.394	1.379	1.338	1.273	1.188	1.091	0.987	0.883	0.783
	3.366	3.345	3.285	3.188	3.059	2.906	2.736	2.558	2.380
0.25	1.658	1.660	1.667	1.678	1.693	1.711	1.733	1.757	1.782
	0.535	0.536	0.540	0.545	0.553	0.562	0.572	0.584	0.597
	0.000	0.056	0.112	0.164	0.211	0.252	0.286	0.311	0.326
	1.390	1.375	1.334	1.270	1.187	1.090	0.987	0.884	0.785
	3.360	3.339	3.280	3.186	3.061	2.911	2.745	2.570	2.394
0.30	1.663	1.665	1.671	1.682	1.697	1.716	1.737	1.761	1.786
	0.524	0.525	0.529	0.535	0.543	0.552	0.564	0.576	0.589
	0.000	0.057	0.113	0.165	0.213	0.254	0.288	0.312	0.327
	1.385	1.371	1.330	1.267	1.184	1.089	0.987	0.885	0.786
	3.352	3.332	3.275	3.183	3.061	2.915	2.752	2.580	2.406
0.35	1.667	1.669	1.676	1.687	1.702	1.720	1.741	1.765	1.790
	0.513	0.515	0.518	0.525	0.533	0.543	0.555	0.568	0.582
	0.000	0.058	0.114	0.167	0.215	0.256	0.289	0.314	0.328
	1.379	1.365	1.326	1.263	1.182	1.087	0.987	0.885	0.787
	3.343	3.323	3.268	3.179	3.060	2.917	2.757	2.587	2.416
0.40	1.671	1.674	1.680	1.691	1.706	1.724	1.745	1.769	1.794
	0.503	0.504	0.508	0.515	0.524	0.534	0.547	0.561	0.575
	0.000	0.058	0.115	0.168	0.216	0.258	0.291	0.315	0.328
	1.373	1.360	1.320	1.259	1.178	1.085	0.985	0.885	0.788
	3.332	3.313	3.260	3.173	3.057	2.917	2.761	2.593	2.423
0.45	1.676	1.678	1.684	1.695	1.710	1.728	1.749	1.772	1.797
	0.492	0.494	0.498	0.505	0.514	0.526	0.539	0.553	0.568
	0.000	0.059	0.116	0.170	0.218	0.259	0.292	0.316	0.329
	1.367	1.353	1.315	1.254	1.174	1.083	0.984	0.884	0.788
	3.321	3.303	3.250	3.166	3.053	2.917	2.763	2.598	2.430
0.50	1.680	1.682	1.689	1.700	1.714	1.732	1.753	1.776	1.801
	0.482	0.484	0.488	0.495	0.505	0.517	0.531	0.546	0.561
	0.000	0.059	0.117	0.171	0.219	0.261	0.294	0.317	0.329
	1.359	1.346	1.308	1.248	1.170	1.079	0.982	0.883	0.787
	3.308	3.291	3.240	3.158	3.048	2.914	2.764	2.601	2.435

$$M_{\infty} = 4, \beta_k = 20^\circ, \alpha = 10^\circ$$

ϵ	θ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.55	1.684	1.687	1.693	1.704	1.718	1.736	1.757	1.779	1.804
	0.472	0.474	0.478	0.486	0.496	0.509	0.523	0.539	0.555
	0.000	0.060	0.118	0.172	0.221	0.262	0.295	0.318	0.330
	1.351	1.338	1.301	1.242	1.165	1.076	0.979	0.882	0.787
	3.295	3.278	3.229	3.149	3.041	2.911	2.763	2.603	2.438
0.60	1.689	1.691	1.697	1.708	1.722	1.740	1.760	1.783	1.807
	0.462	0.464	0.469	0.477	0.488	0.501	0.516	0.532	0.549
	0.000	0.060	0.119	0.174	0.222	0.264	0.296	0.319	0.330
	1.343	1.330	1.294	1.235	1.160	1.072	0.977	0.880	0.786
	3.280	3.264	3.216	3.139	3.034	2.907	2.762	2.604	2.441
0.65	1.693	1.695	1.702	1.712	1.726	1.744	1.764	1.786	1.810
	0.452	0.454	0.459	0.467	0.479	0.493	0.508	0.525	0.543
	0.000	0.061	0.120	0.175	0.224	0.265	0.297	0.319	0.330
	1.334	1.321	1.285	1.228	1.154	1.067	0.973	0.878	0.785
	3.264	3.249	3.203	3.127	3.026	2.901	2.759	2.604	2.442
0.70	1.697	1.700	1.706	1.716	1.730	1.747	1.767	1.789	1.813
	0.442	0.444	0.450	0.458	0.470	0.485	0.501	0.519	0.537
	0.000	0.061	0.121	0.176	0.225	0.266	0.298	0.320	0.331
	1.324	1.312	1.277	1.221	1.147	1.062	0.970	0.875	0.783
	3.248	3.233	3.188	3.115	3.016	2.895	2.756	2.603	2.443
0.75	1.702	1.704	1.710	1.720	1.734	1.751	1.771	1.793	1.816
	0.432	0.434	0.440	0.449	0.462	0.477	0.494	0.512	0.531
	0.000	0.062	0.122	0.177	0.226	0.268	0.299	0.321	0.331
	1.314	1.302	1.267	1.212	1.140	1.057	0.966	0.872	0.781
	3.230	3.216	3.173	3.102	3.005	2.887	2.751	2.601	2.442
0.80	1.706	1.709	1.715	1.725	1.738	1.755	1.774	1.796	1.819
	0.423	0.425	0.431	0.440	0.453	0.469	0.487	0.506	0.525
	0.000	0.062	0.123	0.178	0.228	0.269	0.300	0.321	0.331
	1.303	1.291	1.258	1.204	1.133	1.051	0.961	0.869	0.779
	3.212	3.197	3.156	3.087	2.994	2.879	2.745	2.598	2.441
0.85	1.711	1.713	1.719	1.729	1.742	1.759	1.778	1.799	1.822
	0.413	0.415	0.421	0.431	0.445	0.461	0.480	0.499	0.519
	0.000	0.062	0.123	0.179	0.229	0.270	0.301	0.322	0.331
	1.292	1.280	1.247	1.194	1.125	1.044	0.956	0.866	0.777
	3.192	3.178	3.138	3.072	2.981	2.869	2.739	2.593	2.439
0.90	1.716	1.718	1.724	1.733	1.746	1.762	1.781	1.802	1.825
	0.403	0.405	0.412	0.422	0.437	0.454	0.473	0.493	0.513
	0.000	0.063	0.124	0.180	0.230	0.271	0.303	0.323	0.331
	1.280	1.268	1.236	1.184	1.117	1.038	0.951	0.862	0.774
	3.171	3.158	3.119	3.055	2.967	2.858	2.731	2.588	2.435
0.95	1.720	1.722	1.728	1.738	1.750	1.766	1.785	1.805	1.828
	0.393	0.396	0.402	0.413	0.428	0.446	0.466	0.487	0.508
	0.000	0.063	0.125	0.182	0.231	0.273	0.304	0.323	0.331
	1.267	1.256	1.224	1.174	1.108	1.030	0.946	0.858	0.771
	3.149	3.136	3.099	3.037	2.952	2.847	2.722	2.582	2.431
1.00	1.725	1.727	1.733	1.742	1.755	1.770	1.788	1.809	1.831
	0.384	0.386	0.393	0.404	0.420	0.438	0.459	0.481	0.502
	0.000	0.064	0.126	0.183	0.233	0.274	0.305	0.324	0.331
	1.254	1.243	1.212	1.163	1.098	1.023	0.939	0.853	0.767
	3.125	3.113	3.077	3.018	2.936	2.834	2.712	2.575	2.426
F_x	0.487	0.488	0.489	0.492	0.496	0.500	0.506	0.513	0.520

$$M_{\infty} = 4, \beta_K = 20^\circ, \alpha = 10^\circ$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.00	1.750	1.771	1.791	1.810	1.826	1.838	1.845	1.915	1.847
	0.637	0.644	0.652	0.659	0.664	0.669	0.671	0.697	0.672
	0.323	0.319	0.300	0.264	0.213	0.147	0.075	0.000	0.000
	0.680	0.603	0.541	0.495	0.464	0.444	0.435	0.432	0.432
	2.003	1.834	1.694	1.586	1.511	1.465	1.440	1.683	1.433
0.05	1.785	1.811	1.837	1.862	1.884	1.902	1.914	1.918	
	0.638	0.649	0.659	0.668	0.677	0.684	0.688	0.690	
	0.323	0.317	0.297	0.262	0.212	0.150	0.078	0.000	
	0.684	0.606	0.544	0.497	0.465	0.445	0.435	0.431	
	2.135	1.983	1.859	1.770	1.715	1.690	1.683	1.682	
0.10	1.793	1.820	1.846	1.870	1.891	1.907	1.917	1.920	
	0.631	0.642	0.652	0.662	0.671	0.678	0.682	0.683	
	0.326	0.319	0.299	0.264	0.215	0.152	0.079	0.000	
	0.687	0.610	0.547	0.499	0.466	0.446	0.435	0.431	
	2.169	2.018	1.893	1.800	1.738	1.703	1.686	1.681	
0.15	1.799	1.826	1.851	1.875	1.895	1.910	1.920	1.923	
	0.624	0.635	0.646	0.656	0.665	0.671	0.676	0.677	
	0.328	0.321	0.300	0.266	0.216	0.153	0.079	0.000	
	0.690	0.613	0.549	0.501	0.467	0.446	0.434	0.430	
	2.193	2.042	1.915	1.817	1.750	1.708	1.686	1.679	
0.20	1.804	1.831	1.856	1.879	1.899	1.913	1.922	1.925	
	0.616	0.628	0.639	0.649	0.658	0.665	0.670	0.672	
	0.329	0.322	0.301	0.266	0.216	0.153	0.079	0.000	
	0.693	0.615	0.551	0.502	0.468	0.445	0.433	0.429	
	2.212	2.060	1.931	1.830	1.757	1.711	1.685	1.677	
0.25	1.808	1.835	1.860	1.883	1.902	1.916	1.925	1.928	
	0.609	0.621	0.633	0.643	0.652	0.660	0.664	0.666	
	0.330	0.322	0.301	0.265	0.215	0.152	0.078	0.000	
	0.695	0.617	0.553	0.503	0.468	0.445	0.432	0.428	
	2.227	2.074	1.943	1.839	1.762	1.711	1.683	1.674	
0.30	1.812	1.838	1.863	1.886	1.905	1.918	1.927	1.930	
	0.602	0.615	0.627	0.637	0.646	0.654	0.659	0.660	
	0.330	0.322	0.300	0.264	0.214	0.151	0.078	0.000	
	0.697	0.618	0.554	0.504	0.468	0.444	0.431	0.427	
	2.239	2.086	1.953	1.845	1.765	1.711	1.680	1.670	
0.35	1.816	1.842	1.867	1.889	1.907	1.921	1.929	1.932	
	0.595	0.608	0.621	0.631	0.641	0.648	0.653	0.655	
	0.331	0.321	0.299	0.263	0.213	0.150	0.077	0.000	
	0.698	0.620	0.555	0.504	0.468	0.443	0.430	0.425	
	2.249	2.095	1.961	1.850	1.767	1.709	1.676	1.666	
0.40	1.819	1.845	1.870	1.892	1.910	1.923	1.932	1.935	
	0.589	0.602	0.615	0.626	0.635	0.643	0.648	0.650	
	0.331	0.321	0.298	0.261	0.211	0.148	0.076	0.000	
	0.699	0.621	0.556	0.504	0.467	0.442	0.428	0.424	
	2.258	2.103	1.967	1.854	1.767	1.707	1.672	1.661	
0.45	1.823	1.848	1.872	1.894	1.912	1.926	1.934	1.937	
	0.583	0.596	0.609	0.620	0.630	0.638	0.643	0.644	
	0.331	0.320	0.297	0.260	0.210	0.147	0.076	0.000	
	0.699	0.621	0.556	0.504	0.466	0.441	0.426	0.422	
	2.265	2.110	1.972	1.856	1.766	1.704	1.667	1.655	
0.50	1.826	1.851	1.875	1.897	1.915	1.928	1.937	1.939	
	0.576	0.591	0.604	0.615	0.625	0.632	0.637	0.639	
	0.331	0.319	0.296	0.258	0.208	0.146	0.075	0.000	
	0.699	0.621	0.556	0.504	0.465	0.439	0.424	0.420	
	2.270	2.115	1.975	1.857	1.765	1.700	1.662	1.649	

$$M_{\infty} = 4, \beta_{\kappa} = 20^{\circ}, \alpha = 10^{\circ}$$

$\frac{z}{\rho}$	ϑ								
	101°15'	112°30'	132°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.55	1.829 0.571 0.330 0.699 2.274	1.854 0.585 0.319 0.621 2.119	1.878 0.598 0.294 0.556 1.978	1.899 0.610 0.257 0.503 1.857	1.917 0.620 0.206 0.464 1.762	1.931 0.627 0.144 0.437 1.695	1.939 0.632 0.074 0.422 1.656	1.942 0.634 0.000 0.417 1.643	
0.60	1.832 0.565 0.330 0.699 2.278	1.857 0.580 0.318 0.621 2.121	1.880 0.593 0.293 0.555 1.979	1.902 0.605 0.255 0.502 1.857	1.920 0.615 0.205 0.462 1.759	1.933 0.622 0.143 0.435 1.690	1.942 0.627 0.073 0.420 1.649	1.944 0.629 0.000 0.415 1.635	
0.65	1.835 0.559 0.330 0.698 2.280	1.859 0.575 0.317 0.621 2.123	1.883 0.588 0.291 0.555 1.980	1.904 0.600 0.253 0.501 1.855	1.922 0.610 0.203 0.461 1.756	1.936 0.617 0.142 0.433 1.684	1.944 0.622 0.073 0.417 1.642	1.947 0.623 0.000 0.412 1.628	
0.70	1.837 0.554 0.329 0.697 2.281	1.862 0.570 0.316 0.620 2.124	1.885 0.584 0.290 0.554 1.979	1.907 0.595 0.251 0.500 1.853	1.925 0.605 0.201 0.459 1.751	1.939 0.612 0.140 0.430 1.677	1.947 0.616 0.072 0.414 1.633	1.950 0.618 0.000 0.409 1.619	
0.75	1.840 0.548 0.329 0.696 2.281	1.864 0.565 0.315 0.619 2.124	1.888 0.579 0.288 0.552 1.978	1.909 0.590 0.250 0.498 1.850	1.928 0.600 0.200 0.456 1.746	1.941 0.606 0.139 0.427 1.670	1.950 0.611 0.071 0.411 1.624	1.953 0.612 0.000 0.405 1.609	
0.80	1.843 0.543 0.328 0.694 2.281	1.867 0.560 0.314 0.617 2.124	1.890 0.574 0.287 0.551 1.977	1.912 0.586 0.248 0.496 1.846	1.930 0.595 0.198 0.454 1.740	1.944 0.601 0.138 0.424 1.661	1.953 0.605 0.071 0.407 1.614	1.956 0.607 0.000 0.401 1.599	
0.85	1.846 0.538 0.328 0.692 2.279	1.869 0.555 0.313 0.616 2.122	1.893 0.569 0.285 0.549 1.974	1.914 0.581 0.246 0.494 1.842	1.933 0.589 0.196 0.451 1.733	1.947 0.596 0.137 0.421 1.652	1.956 0.599 0.070 0.403 1.603	1.959 0.601 0.000 0.397 1.587	
0.90	1.848 0.533 0.327 0.690 2.277	1.872 0.550 0.312 0.614 2.120	1.895 0.565 0.284 0.547 1.971	1.917 0.576 0.245 0.492 1.836	1.936 0.584 0.195 0.448 1.725	1.950 0.590 0.135 0.417 1.642	1.959 0.593 0.069 0.399 1.591	1.962 0.594 0.000 0.393 1.574	
0.95	1.851 0.528 0.327 0.688 2.274	1.875 0.545 0.311 0.612 2.117	1.898 0.560 0.282 0.545 1.967	1.920 0.571 0.243 0.489 1.830	1.939 0.579 0.193 0.444 1.716	1.954 0.584 0.134 0.413 1.630	1.963 0.587 0.068 0.394 1.577	1.966 0.588 0.000 0.387 1.559	
1.00	1.854 0.523 0.327 0.685 2.270	1.877 0.541 0.310 0.610 2.113	1.900 0.555 0.281 0.543 1.962	1.922 0.566 0.241 0.486 1.823	1.942 0.573 0.191 0.440 1.706	1.957 0.577 0.133 0.408 1.617	1.967 0.580 0.068 0.388 1.561	1.971 0.580 0.000 0.381 1.542	
F_x	0.528	0.537	0.546	0.554	0.560	0.565	0.569	0.570	

$$M_{\infty} = 4, \beta_{\kappa} = 25^{\circ}, \alpha = 5^{\circ}$$

ξ	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.00	1.566	1.567	1.570	1.574	1.580	1.508	1.597	1.606	1.616
	0.730	0.730	0.732	0.734	0.737	0.740	0.744	0.749	0.754
	0.000	0.025	0.049	0.072	0.092	0.110	0.123	0.133	0.137
	1.433	1.426	1.405	1.372	1.328	1.277	1.220	1.161	1.102
0.05	3.404	3.392	3.357	3.300	3.224	3.133	3.032	2.925	2.816
	1.571	1.573	1.577	1.584	1.593	1.604	1.618	1.632	1.648
	0.726	0.720	0.722	0.725	0.729	0.735	0.741	0.748	0.756
	0.000	0.026	0.052	0.076	0.098	0.116	0.131	0.140	0.145
0.10	1.432	1.425	1.405	1.372	1.328	1.277	1.220	1.161	1.102
	3.404	3.394	3.366	3.321	3.261	3.189	3.110	3.027	2.944
	1.576	1.578	1.582	1.589	1.598	1.610	1.624	1.638	1.654
	0.708	0.709	0.711	0.714	0.719	0.725	0.731	0.739	0.747
0.15	0.000	0.027	0.054	0.079	0.102	0.121	0.135	0.146	0.150
	1.431	1.424	1.403	1.371	1.327	1.276	1.220	1.161	1.102
	3.401	3.392	3.365	3.321	3.263	3.194	3.116	3.035	2.953
	1.582	1.583	1.587	1.594	1.604	1.616	1.629	1.644	1.660
0.20	0.698	0.698	0.701	0.704	0.709	0.715	0.722	0.729	0.737
	0.000	0.028	0.056	0.081	0.104	0.124	0.139	0.149	0.154
	1.429	1.422	1.401	1.369	1.326	1.275	1.219	1.160	1.101
	3.398	3.389	3.362	3.320	3.263	3.195	3.119	3.039	2.957
0.25	1.587	1.588	1.592	1.599	1.609	1.621	1.634	1.649	1.665
	0.687	0.688	0.690	0.694	0.699	0.705	0.713	0.720	0.728
	0.000	0.029	0.057	0.083	0.106	0.126	0.142	0.152	0.157
	1.426	1.419	1.399	1.366	1.323	1.273	1.217	1.158	1.100
0.30	3.393	3.384	3.358	3.317	3.261	3.194	3.119	3.040	2.959
	1.592	1.593	1.597	1.604	1.614	1.626	1.639	1.654	1.670
	0.677	0.678	0.681	0.684	0.690	0.696	0.703	0.711	0.720
	0.000	0.029	0.058	0.084	0.108	0.128	0.144	0.155	0.160
0.35	1.422	1.415	1.395	1.363	1.320	1.270	1.214	1.156	1.098
	3.387	3.378	3.353	3.312	3.257	3.192	3.118	3.039	2.959
	1.597	1.598	1.602	1.609	1.619	1.631	1.644	1.659	1.674
	0.668	0.668	0.671	0.675	0.680	0.687	0.694	0.703	0.711
0.40	0.000	0.030	0.059	0.086	0.110	0.130	0.146	0.157	0.162
	1.418	1.411	1.391	1.359	1.317	1.267	1.211	1.153	1.095
	3.379	3.371	3.346	3.306	3.253	3.188	3.115	3.037	2.957
	1.601	1.603	1.607	1.614	1.624	1.635	1.649	1.664	1.679
0.45	0.658	0.659	0.661	0.666	0.671	0.678	0.686	0.694	0.703
	0.000	0.030	0.059	0.087	0.111	0.132	0.148	0.159	0.164
	1.412	1.406	1.386	1.354	1.313	1.263	1.208	1.150	1.092
	3.371	3.363	3.338	3.299	3.246	3.183	3.111	3.034	2.954
0.50	1.606	1.608	1.612	1.619	1.629	1.640	1.654	1.668	1.684
	0.649	0.650	0.652	0.656	0.662	0.669	0.677	0.686	0.695
	0.000	0.030	0.060	0.088	0.113	0.133	0.150	0.160	0.165
	1.407	1.400	1.381	1.349	1.308	1.258	1.204	1.146	1.088
0.55	3.362	3.354	3.330	3.291	3.239	3.176	3.105	3.029	2.950
	1.611	1.613	1.617	1.624	1.633	1.645	1.658	1.673	1.688
	0.639	0.640	0.643	0.647	0.653	0.661	0.669	0.678	0.687
	0.000	0.031	0.061	0.089	0.114	0.135	0.151	0.162	0.167
0.60	1.401	1.394	1.375	1.344	1.302	1.253	1.199	1.142	1.084
	3.351	3.343	3.320	3.282	3.231	3.169	3.099	3.023	2.944
	1.616	1.618	1.622	1.629	1.638	1.650	1.663	1.677	1.692
	0.630	0.631	0.634	0.639	0.645	0.652	0.661	0.670	0.679
0.65	0.000	0.031	0.062	0.090	0.115	0.136	0.152	0.163	0.168
	1.394	1.387	1.368	1.337	1.296	1.248	1.194	1.137	1.080
	3.340	3.332	3.309	3.272	3.222	3.161	3.091	3.016	2.938

$$M_{\infty} = 4, \beta_{\kappa} = 25^{\circ}, \alpha = 5^{\circ}$$

ξ	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.55	1.621 0.622 0.000 1.386 3.327	1.622 0.623 0.031 1.380 3.320	1.627 0.625 0.062 1.361 3.297	1.634 0.630 0.091 1.330 3.261	1.643 0.636 0.116 1.290 3.211	1.654 0.644 0.137 1.242 3.151	1.667 0.652 0.153 1.188 3.082	1.682 0.662 0.164 1.132 3.008	1.697 0.671 0.169 1.075 2.930
0.60	1.626 0.613 0.000 1.378 3.314	1.627 0.614 0.032 1.372 3.306	1.632 0.617 0.063 1.353 3.284	1.638 0.621 0.091 1.323 3.248	1.648 0.628 0.117 1.283 3.200	1.659 0.636 0.138 1.235 3.141	1.672 0.644 0.155 1.182 3.073	1.686 0.654 0.165 1.126 2.999	1.701 0.664 0.170 1.070 2.922
0.65	1.631 0.604 0.000 1.370 3.300	1.632 0.605 0.032 1.364 3.292	1.636 0.608 0.063 1.345 3.271	1.643 0.613 0.092 1.315 3.235	1.652 0.620 0.118 1.276 3.188	1.663 0.628 0.139 1.228 3.129	1.676 0.637 0.156 1.176 3.062	1.691 0.646 0.166 1.120 2.989	1.705 0.656 0.171 1.064 2.912
0.70	1.636 0.595 0.000 1.361 3.284	1.637 0.597 0.032 1.355 3.277	1.641 0.600 0.064 1.336 3.256	1.648 0.605 0.093 1.307 3.221	1.657 0.611 0.119 1.268 3.174	1.668 0.620 0.140 1.221 3.117	1.681 0.629 0.156 1.169 3.050	1.695 0.639 0.167 1.114 2.978	1.710 0.649 0.172 1.058 2.902
0.75	1.641 0.587 0.000 1.351 3.268	1.642 0.588 0.032 1.345 3.261	1.646 0.591 0.064 1.327 3.240	1.653 0.596 0.093 1.298 3.206	1.662 0.603 0.119 1.259 3.160	1.673 0.612 0.141 1.213 3.103	1.685 0.621 0.157 1.162 3.038	1.699 0.631 0.168 1.107 2.966	1.714 0.642 0.172 1.052 2.890
0.80	1.646 0.578 0.000 1.341 3.251	1.647 0.580 0.033 1.335 3.244	1.651 0.583 0.064 1.317 3.224	1.658 0.588 0.094 1.289 3.190	1.667 0.595 0.120 1.251 3.145	1.677 0.604 0.142 1.205 3.089	1.690 0.613 0.158 1.154 3.025	1.704 0.624 0.169 1.100 2.953	1.718 0.634 0.173 1.045 2.878
0.85	1.651 0.570 0.000 1.331 3.233	1.652 0.571 0.033 1.325 3.226	1.656 0.574 0.065 1.307 3.206	1.663 0.580 0.095 1.279 3.173	1.671 0.587 0.121 1.241 3.129	1.682 0.596 0.142 1.196 3.074	1.695 0.606 0.159 1.145 3.010	1.708 0.616 0.169 1.092 2.940	1.723 0.627 0.173 1.037 2.865
0.90	1.656 0.561 0.000 1.320 3.214	1.657 0.563 0.033 1.314 3.207	1.661 0.566 0.065 1.296 3.187	1.668 0.572 0.095 1.268 3.155	1.676 0.579 0.121 1.231 3.112	1.687 0.588 0.143 1.187 3.058	1.699 0.598 0.160 1.137 2.995	1.713 0.609 0.170 1.084 2.925	1.727 0.620 0.174 1.030 2.851
0.95	1.661 0.553 0.000 1.308 3.193	1.662 0.554 0.033 1.302 3.187	1.666 0.558 0.066 1.285 3.168	1.673 0.563 0.096 1.257 3.136	1.681 0.571 0.122 1.221 3.094	1.692 0.580 0.144 1.177 3.040	1.704 0.590 0.160 1.127 2.978	1.718 0.601 0.171 1.075 2.909	1.732 0.613 0.175 1.021 2.836
1.00	1.666 0.544 0.000 1.295 3.172	1.668 0.546 0.033 1.290 3.166	1.671 0.549 0.066 1.273 3.147	1.678 0.555 0.096 1.246 3.116	1.686 0.563 0.123 1.210 3.074	1.697 0.572 0.144 1.166 3.022	1.709 0.583 0.161 1.117 2.961	1.722 0.594 0.171 1.066 2.892	1.736 0.605 0.175 1.013 2.819
F_x	0.617	0.617	0.618	0.619	0.620	0.622	0.624	0.626	0.628

$$M_{\infty} = 4, \beta_{\kappa} = 25^{\circ}, \alpha = 5^{\circ}$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.00	1.627	1.637	1.647	1.655	1.662	1.667	1.671	1.732	1.672
	0.758	0.763	0.768	0.771	0.775	0.777	0.779	0.807	0.779
	0.137	0.130	0.119	0.102	0.081	0.056	0.028	0.000	0.000
	1.046	0.994	0.949	0.911	0.882	0.861	0.848	0.844	0.844
0.05	2.712	2.614	2.528	2.455	2.396	2.354	2.329	2.596	2.321
	1.664	1.680	1.695	1.709	1.720	1.729	1.735	1.736	
	0.763	0.771	0.778	0.785	0.790	0.794	0.797	0.798	
	0.144	0.138	0.125	0.108	0.085	0.059	0.030	0.000	
0.10	1.046	0.994	0.949	0.911	0.882	0.861	0.848	0.843	
	2.865	2.793	2.731	2.681	2.643	2.616	2.601	2.596	
	1.670	1.686	1.701	1.714	1.725	1.734	1.739	1.741	
	0.754	0.762	0.770	0.776	0.781	0.786	0.788	0.789	
0.15	0.150	0.143	0.130	0.112	0.089	0.062	0.031	0.000	
	1.046	0.994	0.949	0.911	0.881	0.860	0.847	0.843	
	2.874	2.802	2.739	2.686	2.646	2.617	2.599	2.594	
	1.676	1.691	1.706	1.719	1.730	1.738	1.743	1.745	
0.20	0.746	0.753	0.761	0.767	0.773	0.777	0.779	0.780	
	0.153	0.147	0.134	0.115	0.091	0.063	0.032	0.000	
	1.045	0.993	0.948	0.910	0.880	0.858	0.845	0.841	
	2.879	2.806	2.742	2.688	2.646	2.615	2.597	2.591	
0.25	1.681	1.696	1.711	1.724	1.734	1.742	1.747	1.749	
	0.737	0.745	0.752	0.759	0.764	0.769	0.771	0.772	
	0.156	0.149	0.136	0.117	0.093	0.065	0.033	0.000	
	1.044	0.992	0.947	0.908	0.878	0.857	0.844	0.839	
0.30	2.881	2.808	2.743	2.688	2.644	2.612	2.593	2.587	
	1.685	1.701	1.715	1.728	1.739	1.747	1.752	1.753	
	0.728	0.736	0.744	0.751	0.756	0.761	0.763	0.764	
	0.159	0.152	0.138	0.119	0.094	0.065	0.033	0.000	
0.35	1.042	0.990	0.945	0.906	0.876	0.854	0.841	0.837	
	2.881	2.807	2.742	2.686	2.641	2.608	2.588	2.582	
	1.690	1.705	1.720	1.732	1.743	1.751	1.756	1.757	
	0.720	0.728	0.736	0.743	0.749	0.753	0.755	0.756	
0.40	0.161	0.153	0.140	0.120	0.095	0.066	0.034	0.000	
	1.039	0.988	0.942	0.904	0.874	0.852	0.839	0.834	
	2.879	2.805	2.739	2.682	2.636	2.603	2.583	2.576	
	1.695	1.710	1.724	1.737	1.747	1.755	1.760	1.761	
0.45	0.712	0.720	0.728	0.735	0.741	0.745	0.748	0.749	
	0.162	0.155	0.141	0.121	0.096	0.067	0.034	0.000	
	1.036	0.985	0.939	0.901	0.871	0.849	0.835	0.831	
	2.876	2.802	2.735	2.677	2.631	2.597	2.576	2.569	
0.50	1.699	1.714	1.728	1.741	1.751	1.759	1.763	1.765	
	0.704	0.712	0.721	0.728	0.733	0.738	0.740	0.741	
	0.164	0.156	0.142	0.122	0.097	0.067	0.034	0.000	
	1.033	0.982	0.936	0.898	0.867	0.845	0.832	0.828	
0.55	2.872	2.798	2.730	2.672	2.625	2.590	2.569	2.561	
	1.703	1.718	1.732	1.745	1.755	1.763	1.767	1.769	
	0.696	0.705	0.713	0.720	0.726	0.730	0.733	0.734	
	0.165	0.157	0.143	0.123	0.097	0.067	0.034	0.000	
0.60	1.029	0.978	0.932	0.894	0.864	0.841	0.828	0.824	
	2.866	2.792	2.724	2.665	2.617	2.582	2.560	2.553	
	1.708	1.723	1.737	1.749	1.759	1.767	1.771	1.773	
	0.688	0.697	0.706	0.713	0.719	0.723	0.726	0.727	
0.65	0.166	0.158	0.144	0.123	0.098	0.068	0.034	0.000	
	1.025	0.974	0.928	0.890	0.859	0.837	0.824	0.819	
	2.860	2.785	2.717	2.658	2.609	2.573	2.551	2.544	

$$M_{\infty} = 4, \beta_{\kappa} = 25^{\circ}, \alpha = 5^{\circ}$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.55	1.712 0.681 0.167 1.020 2.852	1.727 0.690 0.159 0.969 2.778	1.741 0.698 0.144 0.924 2.709	1.753 0.706 0.124 0.886 2.649	1.763 0.712 0.098 0.855 2.600	1.771 0.716 0.068 0.833 2.564	1.775 0.719 0.034 0.819 2.542	1.777 0.720 0.000 0.815 2.534	
0.60	1.716 0.674 0.168 1.015 2.844	1.731 0.683 0.160 0.965 2.769	1.745 0.691 0.145 0.919 2.701	1.757 0.699 0.124 0.881 2.640	1.767 0.705 0.098 0.850 2.591	1.775 0.709 0.068 0.828 2.554	1.779 0.712 0.034 0.815 2.531	1.781 0.713 0.000 0.810 2.524	
0.65	1.720 0.666 0.169 1.010 2.835	1.735 0.676 0.160 0.959 2.760	1.749 0.684 0.145 0.914 2.691	1.761 0.692 0.124 0.876 2.630	1.771 0.698 0.098 0.845 2.580	1.779 0.703 0.068 0.823 2.543	1.783 0.705 0.035 0.809 2.520	1.785 0.706 0.000 0.805 2.512	
0.70	1.725 0.659 0.169 1.004 2.825	1.739 0.669 0.161 0.954 2.750	1.753 0.677 0.146 0.909 2.680	1.765 0.685 0.125 0.870 2.619	1.775 0.691 0.098 0.840 2.569	1.783 0.696 0.068 0.817 2.531	1.787 0.699 0.035 0.804 2.508	1.789 0.700 0.000 0.799 2.500	
0.75	1.729 0.652 0.170 0.998 2.814	1.743 0.662 0.161 0.948 2.739	1.757 0.670 0.146 0.903 2.669	1.769 0.678 0.125 0.865 2.607	1.779 0.684 0.099 0.834 2.557	1.787 0.689 0.068 0.811 2.518	1.791 0.692 0.035 0.798 2.495	1.793 0.693 0.000 0.793 2.487	
0.80	1.733 0.645 0.171 0.991 2.802	1.748 0.655 0.162 0.941 2.727	1.761 0.664 0.146 0.897 2.657	1.773 0.671 0.125 0.858 2.595	1.783 0.678 0.099 0.828 2.543	1.791 0.682 0.068 0.805 2.505	1.795 0.685 0.035 0.792 2.481	1.797 0.686 0.000 0.787 2.473	
0.85	1.738 0.638 0.171 0.984 2.789	1.752 0.648 0.162 0.935 2.714	1.765 0.657 0.146 0.890 2.644	1.777 0.665 0.125 0.852 2.581	1.787 0.671 0.099 0.821 2.530	1.795 0.675 0.068 0.799 2.491	1.799 0.678 0.035 0.785 2.467	1.801 0.679 0.000 0.780 2.458	
0.90	1.742 0.631 0.171 0.977 2.775	1.756 0.641 0.162 0.928 2.700	1.770 0.650 0.147 0.883 2.630	1.782 0.658 0.125 0.845 2.567	1.792 0.664 0.099 0.814 2.515	1.799 0.669 0.068 0.792 2.475	1.804 0.671 0.035 0.778 2.451	1.805 0.672 0.000 0.773 2.443	
0.95	1.746 0.624 0.172 0.969 2.760	1.761 0.634 0.162 0.920 2.685	1.774 0.643 0.147 0.875 2.615	1.786 0.651 0.125 0.837 2.552	1.796 0.657 0.099 0.807 2.499	1.803 0.662 0.068 0.784 2.459	1.808 0.664 0.035 0.770 2.434	1.810 0.665 0.000 0.766 2.426	
1.00	1.751 0.616 0.172 0.961 2.744	1.765 0.627 0.163 0.912 2.669	1.778 0.636 0.147 0.867 2.599	1.790 0.644 0.125 0.829 2.535	1.800 0.650 0.099 0.799 2.482	1.808 0.655 0.068 0.776 2.442	1.813 0.657 0.034 0.762 2.417	1.814 0.658 0.000 0.758 2.408	
F_x	0.630	0.632	0.634	0.636	0.637	0.638	0.638	0.638	

$$M_{\infty} = 4, \beta_{\kappa} = 25^{\circ}, \alpha = 10^{\circ}$$

ξ	θ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.00	1.462	1.464	1.469	1.478	1.490	1.505	1.523	1.543	1.565
	0.681	0.682	0.685	0.689	0.695	0.702	0.710	0.719	0.729
	0.000	0.048	0.096	0.141	0.182	0.219	0.249	0.272	0.286
	1.778	1.762	1.714	1.638	1.539	1.417	1.302	1.177	1.058
	3.729	3.705	3.632	3.515	3.361	3.179	2.979	2.771	2.566
0.05	1.467	1.470	1.477	1.490	1.506	1.527	1.552	1.579	1.609
	0.669	0.671	0.674	0.680	0.688	0.698	0.710	0.724	0.738
	0.000	0.051	0.100	0.147	0.190	0.227	0.257	0.279	0.292
	1.778	1.762	1.714	1.638	1.540	1.426	1.304	1.180	1.061
	3.729	3.707	3.645	3.545	3.414	3.258	3.086	2.908	2.732
0.10	1.473	1.475	1.483	1.496	1.514	1.535	1.560	1.589	1.619
	0.658	0.659	0.663	0.669	0.678	0.689	0.702	0.716	0.731
	0.000	0.052	0.103	0.151	0.195	0.233	0.264	0.286	0.299
	1.776	1.760	1.713	1.638	1.540	1.427	1.306	1.182	1.063
	3.726	3.706	3.647	3.551	3.425	3.276	3.110	2.938	2.767
0.15	1.478	1.481	1.489	1.502	1.520	1.542	1.567	1.596	1.627
	0.646	0.648	0.652	0.659	0.668	0.680	0.693	0.708	0.724
	0.000	0.053	0.106	0.155	0.200	0.238	0.270	0.292	0.305
	1.774	1.758	1.711	1.636	1.540	1.427	1.306	1.184	1.065
	3.722	3.703	3.646	3.554	3.432	3.287	3.127	2.959	2.791
0.20	1.484	1.487	1.495	1.508	1.526	1.548	1.574	1.602	1.633
	0.635	0.637	0.641	0.648	0.658	0.670	0.684	0.700	0.716
	0.000	0.055	0.108	0.158	0.204	0.243	0.275	0.297	0.310
	1.770	1.754	1.708	1.634	1.538	1.427	1.307	1.185	1.067
	3.717	3.699	3.643	3.554	3.437	3.296	3.139	2.974	2.809
0.25	1.489	1.492	1.500	1.513	1.531	1.554	1.580	1.608	1.639
	0.624	0.626	0.631	0.638	0.648	0.661	0.676	0.692	0.708
	0.000	0.056	0.110	0.161	0.207	0.247	0.279	0.302	0.315
	1.766	1.750	1.704	1.631	1.536	1.426	1.306	1.185	1.068
	3.711	3.693	3.639	3.553	3.439	3.302	3.148	2.987	2.824
0.30	1.495	1.497	1.506	1.519	1.537	1.559	1.585	1.614	1.644
	0.614	0.615	0.620	0.628	0.639	0.652	0.667	0.684	0.701
	0.000	0.057	0.112	0.164	0.210	0.251	0.283	0.306	0.318
	1.760	1.745	1.699	1.627	1.533	1.424	1.306	1.185	1.068
	3.703	3.685	3.634	3.550	3.439	3.305	3.155	2.997	2.836
0.35	1.500	1.503	1.511	1.524	1.542	1.564	1.590	1.619	1.649
	0.603	0.605	0.610	0.618	0.630	0.643	0.659	0.676	0.694
	0.000	0.057	0.114	0.166	0.213	0.254	0.286	0.309	0.322
	1.754	1.739	1.694	1.623	1.530	1.421	1.304	1.184	1.068
	3.694	3.677	3.627	3.546	3.438	3.307	3.161	3.004	2.845
0.40	1.505	1.508	1.516	1.530	1.547	1.570	1.595	1.624	1.654
	0.593	0.595	0.600	0.609	0.620	0.635	0.651	0.668	0.687
	0.000	0.058	0.115	0.168	0.216	0.257	0.289	0.312	0.324
	1.748	1.732	1.688	1.617	1.526	1.418	1.302	1.183	1.067
	3.684	3.667	3.619	3.540	3.435	3.308	3.164	3.010	2.853
0.45	1.511	1.514	1.522	1.535	1.553	1.575	1.600	1.628	1.658
	0.583	0.585	0.590	0.599	0.611	0.626	0.643	0.661	0.680
	0.000	0.059	0.117	0.171	0.219	0.260	0.292	0.315	0.327
	1.740	1.725	1.681	1.612	1.521	1.415	1.300	1.182	1.067
	3.673	3.657	3.610	3.533	3.431	3.307	3.166	3.015	2.859
0.50	1.516	1.519	1.527	1.540	1.558	1.580	1.605	1.633	1.662
	0.573	0.575	0.581	0.590	0.602	0.618	0.635	0.654	0.673
	0.000	0.060	0.118	0.173	0.221	0.263	0.295	0.318	0.329
	1.732	1.717	1.674	1.605	1.515	1.411	1.297	1.180	1.065
	3.660	3.645	3.599	3.525	3.426	3.304	3.167	3.017	2.863

$$M_{\infty} = 4, \beta_{\kappa} = 25^{\circ}, \alpha = 10^{\circ}$$

ξ	η								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.55	1.522	1.524	1.532	1.545	1.563	1.584	1.609	1.637	1.667
	0.563	0.565	0.571	0.581	0.594	0.609	0.627	0.647	0.666
	0.000	0.061	0.120	0.174	0.224	0.265	0.298	0.322	0.331
	1.723	1.708	1.666	1.598	1.509	1.406	1.293	1.177	1.064
	3.647	3.632	3.588	3.516	3.419	3.301	3.166	3.019	2.866
0.60	1.527	1.530	1.537	1.550	1.568	1.589	1.614	1.642	1.671
	0.554	0.556	0.562	0.572	0.585	0.601	0.620	0.640	0.660
	0.000	0.061	0.121	0.176	0.226	0.267	0.300	0.322	0.333
	1.713	1.699	1.657	1.590	1.503	1.401	1.289	1.174	1.062
	3.633	3.618	3.575	3.506	3.412	3.296	3.164	3.020	2.868
0.65	1.532	1.535	1.543	1.555	1.573	1.594	1.619	1.646	1.675
	0.544	0.546	0.553	0.563	0.577	0.593	0.612	0.633	0.653
	0.000	0.062	0.122	0.178	0.228	0.270	0.302	0.324	0.335
	1.703	1.689	1.647	1.582	1.496	1.395	1.285	1.171	1.059
	3.617	3.603	3.562	3.494	3.403	3.291	3.161	3.019	2.869
0.70	1.538	1.540	1.548	1.560	1.578	1.599	1.623	1.650	1.679
	0.535	0.537	0.543	0.554	0.568	0.586	0.605	0.626	0.647
	0.000	0.063	0.123	0.180	0.230	0.272	0.305	0.326	0.337
	1.692	1.678	1.637	1.573	1.488	1.389	1.280	1.168	1.057
	3.601	3.587	3.547	3.482	3.393	3.284	3.157	3.017	2.869
0.75	1.543	1.546	1.553	1.566	1.582	1.603	1.627	1.654	1.682
	0.525	0.528	0.534	0.545	0.560	0.578	0.598	0.619	0.641
	0.000	0.063	0.124	0.181	0.232	0.274	0.307	0.328	0.338
	1.680	1.667	1.627	1.563	1.480	1.382	1.275	1.164	1.054
	3.583	3.570	3.532	3.469	3.383	3.276	3.152	3.015	2.868
0.80	1.549	1.551	1.559	1.571	1.587	1.608	1.632	1.658	1.686
	0.516	0.518	0.525	0.537	0.552	0.570	0.591	0.613	0.635
	0.000	0.064	0.126	0.183	0.234	0.276	0.309	0.330	0.340
	1.668	1.655	1.615	1.553	1.471	1.375	1.269	1.159	1.050
	3.565	3.552	3.515	3.454	3.371	3.267	3.146	3.011	2.866
0.85	1.554	1.557	1.564	1.576	1.592	1.613	1.636	1.662	1.690
	0.507	0.509	0.516	0.528	0.544	0.562	0.584	0.606	0.629
	0.000	0.064	0.127	0.185	0.236	0.278	0.311	0.332	0.341
	1.655	1.642	1.604	1.542	1.462	1.367	1.263	1.154	1.047
	3.545	3.533	3.497	3.439	3.358	3.257	3.139	3.006	2.863
0.90	1.560	1.562	1.569	1.581	1.597	1.617	1.640	1.666	1.694
	0.497	0.500	0.507	0.519	0.535	0.555	0.577	0.600	0.623
	0.000	0.065	0.128	0.186	0.237	0.280	0.312	0.333	0.342
	1.641	1.628	1.591	1.531	1.452	1.359	1.256	1.149	1.043
	3.524	3.513	3.479	3.422	3.344	3.246	3.131	3.000	2.859
0.95	1.565	1.568	1.575	1.586	1.602	1.622	1.645	1.670	1.697
	0.488	0.491	0.498	0.511	0.527	0.547	0.570	0.593	0.617
	0.000	0.065	0.129	0.187	0.239	0.282	0.314	0.335	0.343
	1.627	1.614	1.578	1.519	1.442	1.350	1.249	1.144	1.038
	3.503	3.492	3.459	3.404	3.329	3.234	3.122	2.994	2.854
1.00	1.571	1.573	1.580	1.592	1.607	1.627	1.649	1.674	1.701
	0.479	0.481	0.489	0.502	0.519	0.540	0.563	0.587	0.611
	0.000	0.066	0.130	0.189	0.241	0.284	0.316	0.336	0.344
	1.612	1.600	1.564	1.506	1.431	1.341	1.242	1.138	1.033
	3.480	3.469	3.438	3.385	3.313	3.221	3.112	2.986	2.848
F_x	0.615	0.615	0.617	0.619	0.622	0.625	0.630	0.634	0.640

$$M_{\infty} = 4, \beta_{\kappa} = 25^{\circ}, \alpha = 10^{\circ}$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.00	1.587	1.626	1.638	1.651	1.667	1.679	1.687	1.696	1.689
	0.740	0.758	0.765	0.770	0.777	0.783	0.786	0.791	0.787
	0.289	0.281	0.251	0.224	0.179	0.123	0.063	0.000	0.000
	0.949	0.854	0.775	0.714	0.670	0.641	0.625	0.619	0.619
	2.372	2.196	2.035	1.930	1.842	1.783	1.749	1.638	1.738
0.05	1.640	1.672	1.703	1.733	1.759	1.779	1.793	1.797	
	0.753	0.768	0.783	0.797	0.810	0.820	0.826	0.828	
	0.294	0.285	0.264	0.230	0.184	0.129	0.067	0.000	
	0.952	0.857	0.778	0.716	0.671	0.641	0.625	0.619	
	2.570	2.426	2.310	2.228	2.179	2.155	2.148	2.147	
0.10	1.651	1.682	1.713	1.742	1.766	1.785	1.797	1.801	
	0.747	0.763	0.778	0.791	0.803	0.813	0.818	0.820	
	0.302	0.293	0.272	0.238	0.192	0.135	0.070	0.000	
	0.955	0.859	0.779	0.717	0.672	0.641	0.624	0.619	
	2.608	2.466	2.348	2.261	2.202	2.167	2.150	2.145	
0.15	1.658	1.690	1.720	1.748	1.772	1.790	1.801	1.805	
	0.740	0.756	0.771	0.785	0.797	0.806	0.811	0.813	
	0.308	0.299	0.277	0.243	0.196	0.138	0.071	0.000	
	0.957	0.861	0.781	0.718	0.672	0.641	0.623	0.618	
	2.633	2.492	2.371	2.280	2.215	2.173	2.150	2.143	
0.20	1.665	1.696	1.726	1.753	1.776	1.794	1.804	1.808	
	0.733	0.749	0.764	0.778	0.790	0.799	0.805	0.807	
	0.313	0.303	0.281	0.247	0.199	0.140	0.072	0.000	
	0.958	0.862	0.782	0.719	0.672	0.640	0.622	0.616	
	2.653	2.511	2.388	2.292	2.222	2.175	2.148	2.140	
0.25	1.670	1.701	1.731	1.758	1.781	1.797	1.808	1.811	
	0.725	0.742	0.758	0.771	0.783	0.792	0.798	0.800	
	0.317	0.307	0.285	0.249	0.201	0.141	0.073	0.000	
	0.959	0.863	0.783	0.719	0.671	0.639	0.621	0.615	
	2.668	2.525	2.401	2.301	2.226	2.175	2.145	2.136	
0.30	1.675	1.706	1.736	1.762	1.784	1.801	1.811	1.815	
	0.718	0.735	0.751	0.765	0.777	0.786	0.792	0.794	
	0.320	0.310	0.287	0.251	0.202	0.142	0.073	0.000	
	0.960	0.864	0.783	0.718	0.670	0.638	0.619	0.613	
	2.680	2.537	2.410	2.307	2.229	2.173	2.141	2.131	
0.35	1.680	1.711	1.740	1.766	1.788	1.804	1.814	1.818	
	0.712	0.729	0.745	0.759	0.771	0.780	0.786	0.788	
	0.323	0.312	0.289	0.252	0.203	0.142	0.073	0.000	
	0.960	0.864	0.783	0.718	0.669	0.636	0.616	0.610	
	2.690	2.546	2.417	2.311	2.229	2.171	2.136	2.125	
0.40	1.685	1.715	1.744	1.770	1.792	1.808	1.818	1.821	
	0.705	0.722	0.738	0.753	0.765	0.774	0.780	0.782	
	0.325	0.314	0.290	0.253	0.203	0.143	0.073	0.000	
	0.960	0.864	0.782	0.717	0.668	0.634	0.614	0.608	
	2.698	2.553	2.423	2.314	2.229	2.168	2.130	2.119	
0.45	1.689	1.719	1.748	1.774	1.795	1.811	1.821	1.824	
	0.698	0.716	0.732	0.747	0.759	0.768	0.775	0.776	
	0.327	0.315	0.291	0.254	0.204	0.143	0.073	0.000	
	0.959	0.864	0.782	0.716	0.666	0.632	0.611	0.605	
	2.705	2.559	2.427	2.315	2.227	2.163	2.123	2.113	
0.50	1.693	1.723	1.752	1.777	1.799	1.815	1.824	1.828	
	0.692	0.710	0.726	0.741	0.753	0.762	0.770	0.770	
	0.329	0.317	0.292	0.254	0.204	0.143	0.073	0.000	
	0.959	0.863	0.781	0.714	0.664	0.629	0.607	0.602	
	2.710	2.563	2.429	2.315	2.224	2.158	2.115	2.106	

$$M_{\infty} = 4, \beta_{\kappa} = 25^{\circ}, \alpha = 10^{\circ}$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.55	1.697	1.727	1.755	1.781	1.802	1.818	1.828	1.831	
	0.686	0.704	0.721	0.735	0.747	0.756	0.765	0.764	
	0.331	0.318	0.293	0.254	0.204	0.142	0.073	0.000	
	0.957	0.862	0.779	0.713	0.662	0.626	0.603	0.599	
	2.713	2.566	2.431	2.314	2.221	2.152	2.106	2.098	
0.60	1.701	1.730	1.759	1.784	1.805	1.821	1.831	1.834	
	0.680	0.698	0.715	0.730	0.742	0.751	0.759	0.759	
	0.332	0.319	0.293	0.254	0.203	0.142	0.073	0.000	
	0.956	0.860	0.778	0.711	0.659	0.623	0.599	0.596	
	2.716	2.568	2.431	2.312	2.216	2.146	2.098	2.089	
0.65	1.704	1.734	1.762	1.787	1.809	1.825	1.834	1.837	
	0.674	0.693	0.710	0.724	0.736	0.745	0.753	0.753	
	0.334	0.320	0.293	0.254	0.203	0.142	0.073	0.000	
	0.954	0.859	0.776	0.708	0.656	0.620	0.597	0.592	
	2.717	2.569	2.431	2.310	2.211	2.138	2.092	2.080	
0.70	1.708	1.737	1.765	1.791	1.812	1.828	1.838	1.841	
	0.668	0.687	0.704	0.719	0.731	0.740	0.745	0.747	
	0.335	0.320	0.293	0.254	0.202	0.141	0.072	0.000	
	0.952	0.857	0.774	0.706	0.653	0.616	0.594	0.588	
	2.718	2.569	2.429	2.306	2.205	2.130	2.085	2.070	
0.75	1.712	1.741	1.769	1.794	1.815	1.831	1.841	1.844	
	0.662	0.682	0.699	0.714	0.726	0.734	0.740	0.742	
	0.336	0.321	0.293	0.253	0.202	0.141	0.072	0.000	
	0.950	0.855	0.772	0.703	0.650	0.613	0.590	0.583	
	2.717	2.568	2.427	2.302	2.198	2.122	2.075	2.059	
0.80	1.715	1.744	1.772	1.797	1.819	1.835	1.845	1.848	
	0.657	0.677	0.694	0.708	0.720	0.729	0.734	0.736	
	0.337	0.321	0.293	0.253	0.201	0.140	0.072	0.000	
	0.947	0.852	0.769	0.700	0.647	0.609	0.586	0.579	
	2.716	2.566	2.424	2.297	2.191	2.112	2.064	2.048	
0.85	1.719	1.748	1.775	1.801	1.822	1.838	1.848	1.852	
	0.651	0.671	0.689	0.703	0.715	0.723	0.728	0.730	
	0.338	0.322	0.293	0.253	0.201	0.139	0.071	0.000	
	0.944	0.849	0.766	0.697	0.643	0.604	0.581	0.574	
	2.713	2.564	2.420	2.291	2.183	2.102	2.052	2.035	
0.90	1.722	1.751	1.779	1.804	1.826	1.842	1.852	1.856	
	0.646	0.666	0.684	0.698	0.709	0.718	0.723	0.724	
	0.338	0.322	0.293	0.252	0.200	0.139	0.071	0.000	
	0.940	0.846	0.763	0.693	0.638	0.599	0.576	0.568	
	2.710	2.560	2.415	2.284	2.174	2.090	2.039	2.022	
0.95	1.726	1.754	1.782	1.807	1.829	1.846	1.856	1.860	
	0.640	0.661	0.679	0.693	0.704	0.712	0.716	0.718	
	0.339	0.322	0.293	0.251	0.199	0.138	0.071	0.000	
	0.937	0.843	0.760	0.689	0.634	0.594	0.570	0.562	
	2.706	2.556	2.410	2.276	2.164	2.078	2.025	2.007	
1.00	1.729	1.758	1.785	1.811	1.833	1.850	1.860	1.864	
	0.635	0.656	0.673	0.688	0.698	0.706	0.710	0.712	
	0.340	0.322	0.292	0.251	0.199	0.138	0.070	0.000	
	0.933	0.839	0.756	0.685	0.629	0.588	0.564	0.556	
	2.701	2.551	2.403	2.268	2.153	2.064	2.010	1.991	
F_x	0.645	0.650	0.655	0.659	0.661	0.663	0.664	0.665	

$$M_{\infty} = 4, \beta_{\kappa} = 30^{\circ}, \alpha = 5^{\circ}$$

ξ	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.00	1.384	1.385	1.388	1.393	1.399	1.407	1.416	1.426	1.437
	0.799	0.799	0.801	0.804	0.808	0.812	0.817	0.823	0.829
	0.000	0.023	0.046	0.067	0.086	0.102	0.115	0.123	0.126
	1.813	1.805	1.782	1.746	1.698	1.640	1.577	1.510	1.444
0.05	3.749	3.737	3.704	3.649	3.576	3.489	3.392	3.288	3.183
	1.390	1.392	1.397	1.405	1.415	1.428	1.443	1.460	1.478
	0.788	0.789	0.792	0.797	0.803	0.811	0.820	0.829	0.840
	0.000	0.025	0.050	0.073	0.094	0.111	0.124	0.133	0.137
0.10	1.812	1.804	1.782	1.745	1.697	1.640	1.577	1.511	1.444
	3.761	3.740	3.714	3.674	3.621	3.558	3.488	3.415	3.343
	1.397	1.398	1.403	1.411	1.422	1.435	1.451	1.468	1.485
	0.778	0.779	0.782	0.786	0.793	0.801	0.810	0.821	0.831
0.15	0.000	0.026	0.052	0.077	0.098	0.116	0.130	0.140	0.144
	1.811	1.803	1.780	1.744	1.696	1.639	1.576	1.510	1.444
	3.746	3.738	3.714	3.675	3.624	3.563	3.495	3.424	3.352
	1.403	1.404	1.409	1.417	1.428	1.442	1.457	1.474	1.492
0.20	0.768	0.769	0.772	0.777	0.783	0.792	0.801	0.812	0.823
	0.000	0.027	0.054	0.079	0.102	0.120	0.135	0.145	0.149
	1.808	1.800	1.778	1.742	1.694	1.638	1.575	1.509	1.442
	3.742	3.734	3.711	3.674	3.624	3.564	3.498	3.428	3.357
0.25	1.409	1.410	1.415	1.423	1.434	1.448	1.463	1.480	1.498
	0.758	0.759	0.762	0.767	0.774	0.782	0.792	0.803	0.814
	0.000	0.028	0.056	0.082	0.105	0.124	0.139	0.149	0.153
	1.805	1.797	1.775	1.739	1.692	1.635	1.573	1.506	1.440
0.30	3.737	3.730	3.707	3.670	3.622	3.563	3.498	3.428	3.359
	1.415	1.416	1.421	1.429	1.440	1.454	1.469	1.486	1.504
	0.748	0.749	0.752	0.758	0.765	0.773	0.783	0.794	0.806
	0.000	0.029	0.057	0.084	0.107	0.127	0.142	0.152	0.157
0.35	1.800	1.793	1.771	1.735	1.688	1.632	1.570	1.504	1.438
	3.731	3.724	3.702	3.666	3.618	3.561	3.497	3.429	3.359
	1.421	1.422	1.427	1.435	1.446	1.460	1.475	1.492	1.510
	0.738	0.740	0.743	0.748	0.756	0.764	0.775	0.786	0.797
0.40	0.000	0.029	0.058	0.085	0.109	0.129	0.145	0.155	0.160
	1.795	1.788	1.766	1.731	1.684	1.628	1.566	1.500	1.435
	3.724	3.717	3.695	3.660	3.613	3.557	3.494	3.425	3.357
	1.427	1.428	1.433	1.441	1.452	1.465	1.481	1.498	1.515
0.45	0.729	0.730	0.734	0.739	0.747	0.756	0.766	0.778	0.789
	0.000	0.030	0.059	0.087	0.111	0.132	0.147	0.158	0.163
	1.790	1.782	1.760	1.725	1.679	1.623	1.562	1.496	1.431
	3.716	3.708	3.687	3.653	3.607	3.552	3.489	3.422	3.354
0.50	1.432	1.434	1.439	1.447	1.458	1.471	1.486	1.503	1.521
	0.720	0.721	0.725	0.731	0.738	0.747	0.758	0.770	0.782
	0.000	0.031	0.060	0.088	0.113	0.134	0.150	0.160	0.165
	1.783	1.776	1.754	1.719	1.673	1.618	1.557	1.492	1.426
0.55	3.706	3.699	3.678	3.645	3.600	3.545	3.484	3.418	3.349
	1.438	1.440	1.445	1.453	1.464	1.477	1.492	1.509	1.526
	0.711	0.713	0.716	0.722	0.730	0.739	0.750	0.762	0.774
	0.000	0.031	0.061	0.090	0.115	0.136	0.152	0.162	0.167
0.60	1.776	1.769	1.747	1.713	1.667	1.612	1.551	1.487	1.422
	3.696	3.689	3.668	3.635	3.591	3.538	3.477	3.411	3.344
	1.444	1.446	1.451	1.458	1.469	1.482	1.497	1.514	1.531
	0.703	0.704	0.708	0.713	0.721	0.731	0.742	0.754	0.766
0.65	0.000	0.031	0.062	0.091	0.116	0.137	0.154	0.164	0.169
	1.768	1.761	1.740	1.705	1.660	1.606	1.545	1.481	1.416
	3.684	3.677	3.657	3.625	3.582	3.529	3.469	3.403	3.337
	1.451	1.453	1.458	1.465	1.476	1.489	1.504	1.520	1.536

$$M_{\infty} = 4, \beta_{\kappa} = 30^{\circ}, \alpha = 5^{\circ}$$

ξ	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.55	1.450	1.451	1.456	1.464	1.475	1.488	1.503	1.519	1.536
	0.694	0.695	0.699	0.705	0.713	0.723	0.734	0.746	0.759
	0.000	0.032	0.063	0.092	0.117	0.139	0.155	0.166	0.171
	1.760	1.752	1.731	1.697	1.652	1.599	1.539	1.476	1.411
0.60	3.672	3.665	3.646	3.614	3.571	3.519	3.460	3.397	3.329
	1.456	1.457	1.462	1.470	1.480	1.493	1.508	1.525	1.542
	0.686	0.687	0.691	0.697	0.705	0.715	0.726	0.739	0.752
	0.000	0.032	0.064	0.093	0.119	0.140	0.157	0.168	0.172
0.65	1.751	1.743	1.723	1.689	1.644	1.591	1.531	1.468	1.404
	3.658	3.652	3.633	3.602	3.560	3.509	3.450	3.386	3.320
	1.461	1.463	1.468	1.475	1.486	1.499	1.514	1.530	1.547
	0.677	0.679	0.683	0.689	0.697	0.707	0.719	0.731	0.744
0.70	0.000	0.033	0.064	0.094	0.120	0.142	0.158	0.169	0.174
	1.741	1.734	1.713	1.680	1.636	1.583	1.524	1.461	1.397
	3.644	3.638	3.619	3.589	3.548	3.497	3.440	3.377	3.310
	1.467	1.469	1.474	1.481	1.492	1.504	1.519	1.535	1.552
0.75	0.669	0.671	0.674	0.681	0.689	0.700	0.711	0.724	0.737
	0.000	0.033	0.065	0.095	0.121	0.143	0.160	0.170	0.175
	1.731	1.724	1.703	1.670	1.627	1.574	1.516	1.453	1.390
	3.629	3.623	3.604	3.575	3.534	3.485	3.428	3.364	3.300
0.80	1.473	1.475	1.479	1.487	1.497	1.510	1.524	1.540	1.557
	0.661	0.662	0.666	0.673	0.682	0.692	0.704	0.717	0.730
	0.000	0.033	0.066	0.096	0.122	0.144	0.161	0.172	0.176
	1.720	1.713	1.693	1.660	1.617	1.565	1.507	1.446	1.383
0.85	3.613	3.607	3.589	3.560	3.520	3.471	3.415	3.355	3.288
	1.479	1.480	1.485	1.493	1.503	1.515	1.530	1.545	1.562
	0.653	0.654	0.658	0.665	0.674	0.685	0.697	0.710	0.723
	0.000	0.033	0.066	0.096	0.123	0.145	0.162	0.173	0.177
0.90	1.708	1.701	1.682	1.649	1.607	1.555	1.498	1.437	1.374
	3.596	3.590	3.572	3.544	3.505	3.457	3.402	3.341	3.276
	1.485	1.486	1.491	1.498	1.508	1.521	1.535	1.551	1.567
	0.645	0.646	0.651	0.657	0.666	0.677	0.689	0.703	0.716
0.95	0.000	0.034	0.067	0.097	0.124	0.146	0.163	0.174	0.178
	1.696	1.689	1.670	1.638	1.596	1.545	1.488	1.427	1.366
	3.578	3.572	3.555	3.527	3.489	3.442	3.387	3.326	3.263
	1.491	1.492	1.497	1.504	1.514	1.526	1.540	1.556	1.572
1.00	0.637	0.638	0.643	0.649	0.659	0.670	0.682	0.696	0.710
	0.000	0.034	0.067	0.098	0.125	0.147	0.164	0.175	0.179
	1.683	1.677	1.657	1.626	1.585	1.535	1.478	1.419	1.357
	3.559	3.553	3.536	3.509	3.472	3.426	3.372	3.313	3.249
F _x	1.497	1.498	1.503	1.510	1.520	1.532	1.546	1.561	1.578
	0.629	0.630	0.635	0.642	0.651	0.662	0.675	0.689	0.703
	0.000	0.034	0.068	0.099	0.126	0.148	0.165	0.176	0.180
	1.670	1.664	1.644	1.614	1.573	1.523	1.467	1.408	1.347
F _x	3.539	3.533	3.517	3.490	3.454	3.409	3.355	3.297	3.233
	1.503	1.504	1.509	1.516	1.526	1.538	1.551	1.567	1.583
	0.621	0.623	0.627	0.634	0.643	0.655	0.668	0.681	0.696
	0.000	0.034	0.068	0.099	0.127	0.149	0.166	0.177	0.181
F _x	1.656	1.650	1.631	1.601	1.560	1.511	1.456	1.397	1.337
	3.518	3.513	3.497	3.471	3.435	3.390	3.338	3.279	3.217
	0.762	0.762	0.762	0.763	0.764	0.765	0.766	0.767	0.768

$$M_{\infty} = 4, \beta_k = 30^\circ, \alpha = 5^\circ$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.00	1.448	1.458	1.468	1.476	1.484	1.489	1.492	1.574	1.493
	0.836	0.842	0.847	0.852	0.856	0.859	0.861	0.908	0.862
	0.125	0.119	0.108	0.092	0.072	0.050	0.025	0.000	0.000
	1.380	1.321	1.269	1.225	1.190	1.165	1.150	1.145	1.145
0.05	3.080	2.985	2.899	2.827	2.768	2.726	2.700	3.053	2.692
	1.497	1.515	1.532	1.548	1.561	1.571	1.577	1.579	
	0.851	0.862	0.872	0.881	0.888	0.894	0.898	0.899	
	0.135	0.128	0.117	0.100	0.079	0.055	0.028	0.000	
0.10	1.380	1.321	1.269	1.225	1.190	1.165	1.149	1.144	
	3.275	3.214	3.162	3.120	3.089	3.068	3.056	3.052	
	1.504	1.522	1.539	1.554	1.567	1.576	1.582	1.584	
	0.842	0.853	0.863	0.872	0.880	0.886	0.889	0.890	
0.15	0.143	0.136	0.123	0.106	0.084	0.058	0.030	0.000	
	1.380	1.320	1.268	1.224	1.189	1.164	1.148	1.143	
	3.285	3.223	3.170	3.126	3.092	3.069	3.055	3.050	
	1.510	1.528	1.545	1.560	1.572	1.582	1.587	1.589	
0.20	0.834	0.845	0.855	0.864	0.872	0.877	0.881	0.882	
	0.148	0.141	0.128	0.110	0.087	0.060	0.031	0.000	
	1.378	1.319	1.267	1.223	1.187	1.162	1.147	1.141	
	3.290	3.228	3.173	3.128	3.092	3.067	3.052	3.047	
0.25	1.516	1.534	1.551	1.565	1.578	1.587	1.592	1.594	
	0.825	0.837	0.847	0.856	0.863	0.869	0.873	0.874	
	0.152	0.145	0.132	0.113	0.090	0.062	0.032	0.000	
	1.377	1.317	1.265	1.221	1.185	1.160	1.144	1.139	
0.30	3.292	3.229	3.174	3.127	3.091	3.064	3.048	3.043	
	1.522	1.540	1.556	1.571	1.583	1.592	1.597	1.599	
	0.817	0.828	0.839	0.848	0.856	0.861	0.865	0.866	
	0.156	0.148	0.135	0.116	0.092	0.063	0.032	0.000	
0.35	1.374	1.315	1.263	1.218	1.183	1.157	1.142	1.137	
	3.292	3.229	3.173	3.125	3.087	3.060	3.043	3.038	
	1.528	1.545	1.561	1.576	1.588	1.597	1.602	1.604	
	0.809	0.820	0.831	0.840	0.848	0.854	0.857	0.858	
0.40	0.159	0.151	0.137	0.118	0.093	0.065	0.033	0.000	
	1.371	1.312	1.260	1.215	1.180	1.154	1.138	1.133	
	3.290	3.227	3.170	3.122	3.083	3.055	3.037	3.032	
	1.533	1.550	1.567	1.581	1.593	1.601	1.607	1.609	
0.45	0.801	0.813	0.823	0.833	0.840	0.846	0.850	0.851	
	0.161	0.153	0.139	0.120	0.095	0.065	0.033	0.000	
	1.367	1.309	1.256	1.212	1.176	1.150	1.135	1.129	
	3.287	3.223	3.166	3.117	3.077	3.048	3.031	3.025	
0.50	1.538	1.556	1.572	1.586	1.597	1.606	1.612	1.613	
	0.794	0.805	0.816	0.825	0.833	0.839	0.843	0.844	
	0.163	0.155	0.141	0.121	0.096	0.066	0.034	0.000	
	1.363	1.305	1.252	1.208	1.172	1.146	1.131	1.125	
0.55	3.282	3.219	3.161	3.111	3.071	3.041	3.023	3.017	
	1.544	1.561	1.577	1.591	1.602	1.611	1.616	1.618	
	0.786	0.798	0.809	0.818	0.826	0.832	0.836	0.837	
	0.165	0.157	0.143	0.122	0.097	0.067	0.034	0.000	
0.60	1.359	1.300	1.248	1.203	1.167	1.142	1.126	1.121	
	3.277	3.213	3.155	3.104	3.063	3.033	3.014	3.008	
	1.549	1.566	1.581	1.595	1.607	1.616	1.621	1.623	
	0.779	0.791	0.802	0.811	0.819	0.825	0.829	0.830	
0.65	0.167	0.159	0.144	0.124	0.098	0.067	0.034	0.000	
	1.354	1.295	1.243	1.198	1.163	1.137	1.121	1.116	
	3.270	3.206	3.147	3.096	3.055	3.024	3.005	2.999	

$$M_{\infty} = 4, \beta_{\kappa} = 30^{\circ}, \alpha = 5^{\circ}$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.55	1.554 0.771 0.169 1.348 3.262	1.571 0.783 0.160 1.290 3.198	1.586 0.795 0.145 1.237 3.139	1.600 0.804 0.125 1.193 3.088	1.612 0.812 0.098 1.157 3.046	1.620 0.818 0.068 1.131 3.014	1.625 0.822 0.035 1.116 2.995	1.627 0.823 0.000 1.110 2.989	
0.60	1.559 0.764 0.170 1.342 3.254	1.576 0.776 0.162 1.284 3.189	1.591 0.788 0.147 1.232 3.130	1.605 0.798 0.125 1.187 3.078	1.616 0.806 0.099 1.152 3.036	1.625 0.812 0.068 1.126 3.004	1.630 0.815 0.035 1.110 2.984	1.632 0.817 0.000 1.104 2.978	
0.65	1.564 0.757 0.172 1.336 3.244	1.580 0.770 0.163 1.278 3.180	1.596 0.781 0.147 1.226 3.120	1.610 0.791 0.126 1.181 3.068	1.621 0.799 0.100 1.145 3.025	1.629 0.805 0.069 1.119 2.993	1.635 0.809 0.035 1.104 2.973	1.636 0.810 0.000 1.098 2.966	
0.70	1.569 0.750 0.173 1.329 3.234	1.585 0.763 0.164 1.271 3.169	1.601 0.774 0.148 1.219 3.110	1.614 0.784 0.127 1.175 3.057	1.626 0.792 0.100 1.139 3.013	1.634 0.799 0.069 1.113 2.981	1.639 0.802 0.035 1.097 2.961	1.641 0.804 0.000 1.092 2.954	
0.75	1.574 0.743 0.174 1.321 3.222	1.590 0.756 0.165 1.264 3.158	1.606 0.768 0.149 1.212 3.098	1.619 0.778 0.128 1.168 3.045	1.630 0.786 0.101 1.132 3.001	1.639 0.792 0.069 1.106 2.968	1.644 0.796 0.035 1.090 2.947	1.646 0.797 0.000 1.085 2.940	
0.80	1.579 0.737 0.175 1.313 3.210	1.595 0.749 0.166 1.256 3.146	1.610 0.761 0.150 1.205 3.086	1.624 0.771 0.128 1.160 3.032	1.635 0.780 0.101 1.125 2.988	1.643 0.786 0.070 1.099 2.954	1.649 0.789 0.035 1.083 2.934	1.650 0.791 0.000 1.078 2.927	
0.85	1.584 0.730 0.176 1.305 3.197	1.600 0.743 0.166 1.248 3.133	1.615 0.755 0.151 1.197 3.072	1.629 0.765 0.129 1.153 3.018	1.640 0.773 0.101 1.117 2.974	1.648 0.779 0.070 1.091 2.940	1.653 0.783 0.035 1.075 2.919	1.655 0.784 0.000 1.070 2.912	
0.90	1.589 0.723 0.177 1.297 3.183	1.605 0.736 0.167 1.240 3.119	1.620 0.748 0.151 1.189 3.058	1.634 0.758 0.129 1.145 3.004	1.645 0.767 0.102 1.109 2.959	1.653 0.773 0.070 1.083 2.925	1.658 0.777 0.036 1.067 2.903	1.660 0.778 0.000 1.061 2.896	
0.95	1.594 0.716 0.177 1.287 3.168	1.610 0.730 0.168 1.231 3.104	1.625 0.742 0.152 1.180 3.043	1.638 0.752 0.129 1.136 2.989	1.650 0.760 0.102 1.100 2.943	1.658 0.767 0.070 1.074 2.909	1.663 0.770 0.036 1.058 2.887	1.665 0.772 0.000 1.053 2.880	
1.00	1.599 0.710 0.178 1.278 3.153	1.615 0.723 0.168 1.222 3.088	1.630 0.735 0.152 1.171 3.027	1.643 0.745 0.130 1.127 2.972	1.655 0.754 0.102 1.091 2.926	1.663 0.760 0.070 1.065 2.891	1.668 0.764 0.036 1.049 2.870	1.670 0.765 0.000 1.044 2.863	
F_x	0.769	0.769	0.770	0.770	0.771	0.771	0.771	0.771	

$$M_{\infty} = 4, \beta_k = 30^\circ, \alpha = 10^\circ$$

ξ	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.00	1.269	1.271	1.277	1.286	1.299	1.316	1.335	1.356	1.379
	0.732	0.733	0.737	0.742	0.750	0.759	0.770	0.783	0.796
	0.000	0.046	0.092	0.135	0.174	0.208	0.236	0.256	0.267
	2.182	2.164	2.112	2.030	1.923	1.797	1.662	1.524	1.389
	4.018	3.994	3.925	3.815	3.669	3.496	3.304	3.104	2.905
0.05	1.275	1.278	1.287	1.301	1.320	1.344	1.372	1.404	1.438
	0.721	0.722	0.727	0.736	0.747	0.761	0.778	0.797	0.817
	0.000	0.049	0.097	0.143	0.184	0.219	0.247	0.266	0.276
	2.181	2.164	2.112	2.030	1.924	1.799	1.664	1.526	1.392
	4.017	3.998	3.941	3.850	3.730	3.588	3.432	3.271	3.113
0.10	1.282	1.285	1.294	1.309	1.329	1.354	1.383	1.415	1.450
	0.709	0.711	0.717	0.726	0.738	0.753	0.771	0.790	0.811
	0.000	0.051	0.101	0.148	0.191	0.227	0.256	0.276	0.287
	2.179	2.162	2.111	2.029	1.923	1.799	1.665	1.528	1.394
	4.015	3.996	3.942	3.856	3.742	3.607	3.458	3.303	3.150
0.15	1.289	1.292	1.301	1.316	1.336	1.362	1.391	1.424	1.459
	0.698	0.700	0.706	0.715	0.728	0.744	0.763	0.783	0.805
	0.000	0.053	0.105	0.153	0.197	0.234	0.264	0.285	0.296
	2.176	2.159	2.108	2.028	1.922	1.799	1.666	1.529	1.395
	4.011	3.993	3.942	3.859	3.749	3.619	3.475	3.324	3.176
0.20	1.296	1.299	1.308	1.323	1.344	1.369	1.399	1.431	1.467
	0.687	0.689	0.695	0.705	0.719	0.735	0.754	0.775	0.797
	0.000	0.054	0.107	0.157	0.202	0.240	0.270	0.292	0.303
	2.172	2.155	2.105	2.025	1.921	1.798	1.665	1.529	1.396
	4.005	3.989	3.939	3.859	3.754	3.628	3.487	3.341	3.194
0.25	1.302	1.305	1.315	1.330	1.350	1.376	1.406	1.439	1.474
	0.677	0.679	0.685	0.695	0.709	0.726	0.746	0.768	0.790
	0.000	0.056	0.110	0.161	0.206	0.245	0.276	0.298	0.310
	2.167	2.150	2.101	2.021	1.918	1.796	1.664	1.529	1.396
	3.999	3.983	3.935	3.858	3.756	3.633	3.497	3.353	3.209
0.30	1.309	1.312	1.321	1.336	1.357	1.383	1.412	1.445	1.480
	0.666	0.669	0.675	0.686	0.700	0.718	0.738	0.760	0.783
	0.000	0.057	0.112	0.164	0.210	0.250	0.281	0.303	0.315
	2.161	2.145	2.095	2.017	1.914	1.794	1.663	1.528	1.396
	3.991	3.975	3.929	3.855	3.756	3.637	3.504	3.363	3.221
0.35	1.315	1.318	1.328	1.343	1.363	1.389	1.419	1.451	1.486
	0.656	0.659	0.665	0.676	0.691	0.709	0.730	0.752	0.776
	0.000	0.058	0.114	0.167	0.214	0.254	0.286	0.308	0.320
	2.154	2.138	2.089	2.011	1.910	1.791	1.660	1.526	1.395
	3.982	3.967	3.922	3.850	3.754	3.639	3.509	3.370	3.230
0.40	1.322	1.325	1.334	1.349	1.370	1.395	1.425	1.457	1.492
	0.646	0.649	0.656	0.667	0.682	0.701	0.722	0.745	0.769
	0.000	0.059	0.116	0.170	0.218	0.258	0.291	0.313	0.324
	2.147	2.130	2.082	2.005	1.905	1.787	1.658	1.524	1.394
	3.972	3.957	3.914	3.845	3.751	3.639	3.512	3.376	3.238
0.45	1.328	1.331	1.340	1.355	1.376	1.401	1.431	1.463	1.497
	0.637	0.639	0.646	0.658	0.673	0.692	0.714	0.738	0.762
	0.000	0.060	0.118	0.172	0.221	0.262	0.295	0.317	0.328
	2.138	2.122	2.074	1.998	1.899	1.782	1.654	1.522	1.392
	3.961	3.947	3.905	3.838	3.747	3.638	3.514	3.380	3.243
0.50	1.334	1.337	1.347	1.362	1.382	1.407	1.436	1.468	1.503
	0.627	0.630	0.637	0.649	0.665	0.684	0.706	0.730	0.755
	0.000	0.061	0.120	0.175	0.224	0.266	0.298	0.321	0.332
	2.129	2.113	2.066	1.991	1.893	1.777	1.650	1.519	1.390
	3.948	3.935	3.895	3.829	3.742	3.635	3.514	3.383	3.247

$$M_{\infty} = 4, \beta_{\kappa} = 30^{\circ}, \alpha = 10^{\circ}$$

η	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.55	1.341 0.618 0.000 2.118 3.935	1.344 0.620 0.062 2.103 3.922	1.353 0.628 0.121 2.056 3.883	1.368 0.640 0.177 1.982 3.820	1.388 0.656 0.227 1.885 3.735	1.413 0.676 0.269 1.771 3.631	1.442 0.699 0.302 1.646 3.513	1.474 0.723 0.324 1.516 3.384	1.508 0.749 0.335 1.387 3.250
0.60	1.347 0.608 0.000 2.107 3.921	1.350 0.611 0.062 2.092 3.908	1.359 0.619 0.123 2.046 3.871	1.374 0.631 0.179 1.973 3.810	1.394 0.648 0.230 1.878 3.727	1.419 0.668 0.272 1.765 3.626	1.447 0.692 0.305 1.641 3.511	1.479 0.717 0.328 1.512 3.384	1.513 0.742 0.339 1.384 3.251
0.65	1.353 0.599 0.000 2.096 3.905	1.356 0.602 0.063 2.080 3.893	1.365 0.610 0.124 2.036 3.857	1.380 0.623 0.182 1.964 3.798	1.400 0.640 0.232 1.869 3.718	1.425 0.661 0.275 1.758 3.620	1.453 0.684 0.308 1.635 3.507	1.484 0.710 0.331 1.507 3.383	1.518 0.736 0.341 1.380 3.252
0.70	1.360 0.590 0.000 2.083 3.889	1.363 0.593 0.064 2.068 3.877	1.372 0.601 0.126 2.024 3.842	1.386 0.614 0.184 1.953 3.786	1.406 0.632 0.235 1.860 3.709	1.430 0.653 0.278 1.750 3.613	1.458 0.677 0.311 1.629 3.503	1.489 0.703 0.334 1.503 3.381	1.522 0.730 0.344 1.377 3.251
0.75	1.366 0.581 0.000 2.070 3.871	1.369 0.584 0.065 2.055 3.860	1.378 0.592 0.127 2.012 3.827	1.392 0.606 0.186 1.942 3.772	1.412 0.624 0.237 1.851 3.698	1.436 0.646 0.281 1.742 3.605	1.464 0.670 0.314 1.623 3.497	1.494 0.697 0.336 1.497 3.377	1.527 0.724 0.347 1.372 3.249
0.80	1.373 0.572 0.000 2.056 3.853	1.376 0.575 0.065 2.042 3.842	1.384 0.584 0.129 1.999 3.810	1.398 0.597 0.188 1.931 3.758	1.418 0.616 0.240 1.841 3.686	1.441 0.638 0.283 1.734 3.596	1.469 0.663 0.317 1.616 3.491	1.499 0.690 0.339 1.492 3.373	1.532 0.718 0.349 1.368 3.246
0.85	1.379 0.564 0.000 2.042 3.834	1.382 0.567 0.066 2.028 3.823	1.391 0.575 0.130 1.986 3.793	1.405 0.589 0.189 1.919 3.742	1.424 0.608 0.242 1.830 3.673	1.447 0.631 0.286 1.725 3.586	1.474 0.656 0.319 1.608 3.483	1.504 0.684 0.341 1.486 3.368	1.536 0.712 0.351 1.363 3.243
0.90	1.386 0.555 0.000 2.026 3.813	1.389 0.558 0.067 2.013 3.803	1.397 0.567 0.131 1.971 3.774	1.411 0.581 0.191 1.906 3.726	1.429 0.600 0.244 1.819 3.659	1.452 0.623 0.288 1.715 3.575	1.479 0.649 0.322 1.600 3.475	1.509 0.677 0.344 1.479 3.362	1.541 0.706 0.353 1.357 3.238
0.95	1.392 0.546 0.000 2.010 3.792	1.395 0.549 0.067 1.997 3.783	1.403 0.558 0.132 1.957 3.754	1.417 0.573 0.193 1.892 3.708	1.435 0.592 0.246 1.807 3.644	1.458 0.616 0.290 1.705 3.562	1.485 0.643 0.324 1.591 3.465	1.514 0.671 0.346 1.472 3.355	1.545 0.700 0.355 1.352 3.233
1.00	1.399 0.537 0.000 1.994 3.769	1.402 0.540 0.068 1.980 3.760	1.410 0.550 0.134 1.941 3.734	1.423 0.565 0.195 1.878 3.689	1.441 0.585 0.248 1.794 3.628	1.464 0.609 0.293 1.694 3.549	1.490 0.636 0.326 1.582 3.455	1.519 0.665 0.348 1.465 3.346	1.550 0.694 0.357 1.345 3.226
F_x	0.766	0.766	0.767	0.769	0.771	0.773	0.776	0.779	0.782

$$M_{\infty} = 4, \beta_{\kappa} = 30^{\circ}, \alpha = 10^{\circ}$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.00	1.403	1.426	1.449	1.469	1.485	1.498	1.505	1.647	1.507
	0.810	0.823	0.836	0.848	0.857	0.864	0.869	0.951	0.870
	0.267	0.257	0.235	0.201	0.158	0.108	0.055	0.000	0.000
	1.265	1.156	1.063	0.989	0.934	0.897	0.875	0.868	0.868
0.05	2.716	2.544	2.395	2.274	2.182	2.118	2.080	2.631	2.068
	1.473	1.510	1.546	1.579	1.609	1.632	1.647	1.652	
	0.838	0.859	0.880	0.900	0.917	0.931	0.940	0.942	
	0.276	0.265	0.243	0.210	0.167	0.116	0.060	0.000	
0.10	1.268	1.158	1.065	0.990	0.935	0.897	0.875	0.868	
	2.968	2.843	2.746	2.680	2.644	2.631	2.630	2.631	
	1.486	1.522	1.557	1.590	1.618	1.639	1.652	1.657	
	0.833	0.855	0.876	0.895	0.912	0.924	0.932	0.935	
0.15	0.288	0.277	0.255	0.221	0.178	0.124	0.064	0.000	
	1.270	1.159	1.066	0.991	0.935	0.896	0.874	0.867	
	3.009	2.886	2.786	2.714	2.669	2.644	2.632	2.629	
	1.495	1.531	1.566	1.597	1.624	1.644	1.657	1.661	
0.20	0.827	0.849	0.870	0.889	0.905	0.917	0.925	0.927	
	0.297	0.286	0.263	0.229	0.184	0.129	0.067	0.000	
	1.271	1.160	1.067	0.991	0.935	0.896	0.873	0.865	
	3.036	2.913	2.811	2.734	2.681	2.649	2.632	2.626	
0.25	1.503	1.539	1.573	1.604	1.630	1.649	1.661	1.666	
	0.820	0.842	0.863	0.882	0.898	0.910	0.918	0.920	
	0.304	0.293	0.270	0.235	0.189	0.133	0.068	0.000	
	1.272	1.161	1.067	0.991	0.934	0.894	0.871	0.864	
0.30	3.056	2.932	2.829	2.747	2.689	2.651	2.630	2.622	
	1.509	1.545	1.579	1.609	1.635	1.654	1.666	1.670	
	0.813	0.836	0.857	0.876	0.892	0.904	0.911	0.914	
	0.310	0.299	0.276	0.240	0.193	0.135	0.070	0.000	
0.35	1.272	1.161	1.067	0.991	0.933	0.893	0.869	0.862	
	3.072	2.948	2.841	2.756	2.693	2.651	2.626	2.618	
	1.516	1.551	1.585	1.615	1.640	1.658	1.670	1.674	
	0.806	0.829	0.850	0.869	0.885	0.897	0.905	0.907	
0.40	0.315	0.304	0.280	0.244	0.196	0.137	0.071	0.000	
	1.272	1.161	1.067	0.990	0.931	0.891	0.867	0.859	
	3.084	2.959	2.851	2.763	2.696	2.649	2.622	2.613	
	1.522	1.557	1.590	1.620	1.644	1.663	1.674	1.678	
0.45	0.800	0.823	0.844	0.863	0.879	0.891	0.898	0.901	
	0.320	0.308	0.284	0.247	0.198	0.139	0.071	0.000	
	1.272	1.161	1.066	0.988	0.929	0.888	0.864	0.856	
	3.094	2.968	2.858	2.767	2.696	2.646	2.617	2.607	
0.50	1.527	1.562	1.595	1.624	1.649	1.667	1.678	1.682	
	0.793	0.816	0.838	0.857	0.873	0.885	0.892	0.895	
	0.324	0.312	0.287	0.250	0.200	0.140	0.072	0.000	
	1.271	1.160	1.064	0.987	0.927	0.886	0.861	0.853	
0.55	3.102	2.976	2.863	2.769	2.695	2.642	2.611	2.600	
	1.532	1.567	1.600	1.629	1.653	1.671	1.682	1.686	
	0.787	0.810	0.832	0.851	0.867	0.879	0.887	0.889	
	0.328	0.315	0.290	0.252	0.202	0.141	0.072	0.000	
0.60	1.269	1.158	1.063	0.985	0.925	0.883	0.858	0.850	
	3.108	2.981	2.867	2.770	2.693	2.637	2.604	2.593	
	1.537	1.572	1.604	1.633	1.657	1.675	1.686	1.690	
	0.780	0.804	0.826	0.845	0.861	0.873	0.881	0.883	
0.65	0.331	0.318	0.292	0.254	0.203	0.142	0.073	0.000	
	1.267	1.157	1.061	0.982	0.922	0.879	0.854	0.846	
	3.113	2.985	2.869	2.769	2.690	2.632	2.597	2.585	

$$M_{\infty} = 4, \beta_{\kappa} = 30^{\circ}, \alpha = 10^{\circ}$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.55	1.542 0.774 0.334 1.265 3.116	1.576 0.798 0.321 1.155 2.987	1.609 0.820 0.294 1.059 2.870	1.637 0.839 0.255 0.980 2.768	1.661 0.855 0.204 0.919 2.685	1.679 0.867 0.142 0.876 2.625	1.690 0.875 0.073 0.851 2.589	1.694 0.878 0.000 0.842 2.576	
0.60	1.547 0.768 0.337 1.263 3.118	1.581 0.792 0.323 1.152 2.989	1.613 0.814 0.296 1.056 2.870	1.642 0.834 0.256 0.977 2.765	1.665 0.850 0.205 0.915 2.680	1.683 0.862 0.143 0.872 2.618	1.694 0.869 0.073 0.846 2.580	1.698 0.872 0.000 0.838 2.567	
0.65	1.552 0.762 0.340 1.260 3.119	1.585 0.786 0.325 1.149 2.989	1.617 0.809 0.298 1.053 2.868	1.646 0.828 0.257 0.973 2.762	1.669 0.844 0.205 0.911 2.675	1.687 0.856 0.143 0.868 2.610	1.698 0.864 0.073 0.842 2.571	1.702 0.866 0.000 0.833 2.557	
0.70	1.556 0.756 0.342 1.256 3.118	1.590 0.781 0.327 1.146 2.988	1.621 0.803 0.299 1.050 2.866	1.650 0.823 0.258 0.970 2.757	1.673 0.839 0.206 0.907 2.668	1.691 0.851 0.143 0.863 2.601	1.702 0.858 0.073 0.837 2.561	1.706 0.861 0.000 0.828 2.547	
0.75	1.561 0.750 0.344 1.253 3.117	1.594 0.775 0.329 1.143 2.987	1.625 0.798 0.300 1.046 2.863	1.654 0.817 0.259 0.966 2.752	1.677 0.833 0.206 0.903 2.660	1.695 0.845 0.143 0.858 2.592	1.706 0.853 0.073 0.832 2.550	1.710 0.855 0.000 0.823 2.535	
0.80	1.565 0.744 0.346 1.249 3.115	1.598 0.770 0.330 1.139 2.984	1.630 0.793 0.301 1.043 2.859	1.658 0.812 0.259 0.962 2.746	1.681 0.828 0.206 0.898 2.652	1.699 0.840 0.143 0.853 2.582	1.710 0.848 0.073 0.826 2.538	1.714 0.850 0.000 0.817 2.523	
0.85	1.569 0.739 0.348 1.245 3.112	1.602 0.764 0.331 1.135 2.980	1.634 0.787 0.302 1.039 2.854	1.662 0.807 0.260 0.957 2.740	1.685 0.823 0.206 0.894 2.643	1.703 0.835 0.143 0.848 2.571	1.714 0.842 0.073 0.821 2.526	1.718 0.845 0.000 0.812 2.511	
0.90	1.574 0.733 0.349 1.240 3.108	1.606 0.759 0.333 1.131 2.976	1.638 0.782 0.303 1.034 2.848	1.666 0.802 0.260 0.953 2.732	1.689 0.818 0.206 0.888 2.634	1.707 0.829 0.143 0.842 2.559	1.718 0.837 0.073 0.815 2.513	1.722 0.839 0.000 0.805 2.497	
0.95	1.578 0.728 0.351 1.235 3.103	1.610 0.754 0.334 1.126 2.971	1.642 0.777 0.303 1.030 2.842	1.670 0.797 0.260 0.948 2.724	1.694 0.812 0.206 0.883 2.623	1.712 0.824 0.143 0.836 2.547	1.723 0.831 0.073 0.808 2.499	1.727 0.833 0.000 0.799 2.483	
1.00	1.582 0.722 0.352 1.230 3.097	1.615 0.749 0.335 1.121 2.965	1.646 0.772 0.304 1.025 2.835	1.674 0.792 0.261 0.942 2.715	1.698 0.807 0.206 0.877 2.612	1.716 0.819 0.143 0.829 2.533	1.727 0.825 0.073 0.801 2.484	1.731 0.828 0.000 0.792 2.467	
F_x	0.785	0.787	0.788	0.789	0.789	0.788	0.788	0.788	

$$M_{\infty} = 4, \beta_K = 30^\circ, \alpha = 20^\circ$$

ξ	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.00	1.011	1.015	1.027	1.047	1.074	1.107	1.147	1.192	1.242
	0.583	0.586	0.593	0.604	0.620	0.639	0.662	0.688	0.717
	0.000	0.092	0.182	0.269	0.350	0.423	0.487	0.539	0.578
	2.953	2.910	2.785	2.590	2.342	2.061	1.770	1.487	1.227
	4.459	4.412	4.276	4.060	3.778	3.449	3.094	2.732	2.381
0.05	1.019	1.024	1.038	1.062	1.094	1.135	1.183	1.236	1.295
	0.570	0.573	0.582	0.596	0.616	0.641	0.669	0.702	0.738
	0.000	0.094	0.187	0.275	0.356	0.428	0.489	0.537	0.570
	2.952	2.910	2.786	2.593	2.347	2.070	1.781	1.499	1.240
	4.458	4.415	4.290	4.091	3.831	3.526	3.194	2.852	2.520
0.10	1.027	1.032	1.047	1.072	1.107	1.149	1.199	1.256	1.317
	0.557	0.560	0.570	0.586	0.608	0.635	0.667	0.703	0.742
	0.000	0.097	0.191	0.281	0.363	0.435	0.496	0.543	0.574
	2.950	2.908	2.786	2.595	2.352	2.077	1.791	1.511	1.252
	4.455	4.415	4.296	4.106	3.858	3.565	3.246	2.917	2.595
0.15	1.034	1.040	1.055	1.081	1.117	1.161	1.213	1.270	1.333
	0.544	0.548	0.558	0.575	0.599	0.628	0.663	0.701	0.743
	0.000	0.099	0.196	0.287	0.370	0.443	0.503	0.549	0.579
	2.946	2.904	2.784	2.595	2.356	2.084	1.800	1.522	1.264
	4.451	4.412	4.299	4.117	3.879	3.598	3.290	2.972	2.658
0.20	1.042	1.047	1.064	1.090	1.126	1.171	1.224	1.282	1.346
	0.531	0.535	0.547	0.565	0.590	0.622	0.658	0.699	0.742
	0.000	0.101	0.200	0.292	0.377	0.450	0.511	0.556	0.585
	2.940	2.899	2.781	2.595	2.358	2.089	1.808	1.532	1.276
	4.445	4.408	4.300	4.126	3.898	3.627	3.330	3.020	2.715
0.25	1.050	1.055	1.072	1.098	1.135	1.180	1.233	1.292	1.357
	0.519	0.523	0.535	0.555	0.581	0.615	0.653	0.696	0.741
	0.000	0.103	0.203	0.298	0.383	0.458	0.518	0.563	0.591
	2.933	2.893	2.776	2.593	2.360	2.094	1.816	1.542	1.287
	4.438	4.402	4.299	4.132	3.913	3.653	3.365	3.065	2.767
0.30	1.057	1.063	1.079	1.106	1.143	1.189	1.242	1.301	1.365
	0.507	0.511	0.524	0.545	0.573	0.607	0.648	0.692	0.739
	0.000	0.105	0.207	0.303	0.390	0.465	0.526	0.571	0.598
	2.925	2.886	2.771	2.591	2.360	2.098	1.823	1.552	1.298
	4.429	4.395	4.296	4.137	3.927	3.676	3.398	3.107	2.816
0.35	1.065	1.070	1.087	1.114	1.151	1.197	1.250	1.309	1.373
	0.495	0.500	0.513	0.535	0.564	0.600	0.642	0.689	0.737
	0.000	0.107	0.211	0.309	0.396	0.472	0.533	0.578	0.604
	2.916	2.877	2.764	2.587	2.360	2.102	1.830	1.561	1.308
	4.419	4.387	4.292	4.140	3.938	3.697	3.429	3.146	2.861
0.40	1.072	1.078	1.094	1.122	1.159	1.204	1.257	1.316	1.379
	0.484	0.489	0.502	0.525	0.556	0.593	0.637	0.685	0.735
	0.000	0.109	0.215	0.314	0.403	0.479	0.540	0.585	0.611
	2.905	2.867	2.756	2.582	2.359	2.104	1.836	1.569	1.319
	4.407	4.377	4.287	4.141	3.948	3.716	3.457	3.183	2.904
0.45	1.080	1.085	1.102	1.129	1.166	1.211	1.264	1.322	1.385
	0.472	0.477	0.492	0.515	0.547	0.586	0.632	0.681	0.733
	0.000	0.111	0.218	0.319	0.409	0.486	0.548	0.592	0.617
	2.894	2.856	2.747	2.576	2.357	2.106	1.841	1.578	1.329
	4.395	4.365	4.280	4.141	3.957	3.734	3.484	3.218	2.946
0.50	1.087	1.093	1.109	1.136	1.173	1.218	1.270	1.328	1.390
	0.461	0.466	0.481	0.506	0.539	0.580	0.626	0.678	0.731
	0.000	0.113	0.222	0.324	0.415	0.493	0.555	0.599	0.623
	2.881	2.844	2.738	2.570	2.354	2.108	1.846	1.586	1.339
	4.381	4.353	4.272	4.140	3.964	3.750	3.510	3.251	2.985

$$M_{\infty} = 4, \beta_{\kappa} = 30^{\circ}, \alpha = 20^{\circ}$$

ξ	θ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.55	1.095	1.100	1.117	1.143	1.179	1.224	1.276	1.333	1.395
	0.450	0.456	0.471	0.496	0.531	0.573	0.621	0.674	0.729
	0.000	0.114	0.225	0.329	0.421	0.500	0.562	0.605	0.629
	2.867	2.831	2.727	2.562	2.351	2.108	1.851	1.594	1.349
0.60	4.365	4.339	4.262	4.137	3.969	3.765	3.533	3.283	3.023
	1.102	1.108	1.124	1.150	1.186	1.230	1.281	1.338	1.399
	0.439	0.445	0.461	0.487	0.523	0.566	0.616	0.670	0.726
	0.000	0.116	0.229	0.334	0.427	0.506	0.568	0.612	0.635
0.65	2.852	2.817	2.715	2.554	2.347	2.109	1.855	1.601	1.359
	4.349	4.325	4.252	4.133	3.974	3.779	3.556	3.313	3.059
	1.110	1.115	1.131	1.157	1.192	1.236	1.286	1.342	1.402
	0.429	0.434	0.451	0.478	0.515	0.560	0.611	0.667	0.724
0.70	0.000	0.118	0.232	0.339	0.433	0.513	0.575	0.618	0.641
	2.836	2.802	2.702	2.545	2.342	2.108	1.859	1.608	1.368
	4.332	4.309	4.240	4.128	3.977	3.791	3.577	3.342	3.094
	1.117	1.123	1.138	1.164	1.199	1.241	1.291	1.346	1.405
0.75	0.418	0.424	0.441	0.469	0.507	0.553	0.606	0.663	0.722
	0.000	0.120	0.236	0.343	0.439	0.519	0.582	0.625	0.646
	2.819	2.786	2.688	2.535	2.336	2.107	1.862	1.615	1.378
	4.313	4.292	4.227	4.122	3.979	3.802	3.597	3.370	3.128
0.80	1.125	1.130	1.146	1.171	1.205	1.247	1.296	1.350	1.408
	0.407	0.413	0.431	0.460	0.499	0.547	0.601	0.659	0.720
	0.000	0.122	0.239	0.348	0.445	0.526	0.588	0.631	0.651
	2.801	2.769	2.674	2.524	2.330	2.106	1.865	1.622	1.387
0.85	4.294	4.273	4.213	4.114	3.979	3.812	3.616	3.397	3.161
	1.133	1.138	1.153	1.178	1.211	1.252	1.300	1.353	1.410
	0.397	0.403	0.421	0.451	0.491	0.540	0.596	0.656	0.718
	0.000	0.123	0.242	0.353	0.450	0.532	0.595	0.637	0.656
0.90	2.782	2.750	2.658	2.512	2.323	2.103	1.868	1.628	1.396
	4.273	4.254	4.198	4.106	3.979	3.820	3.634	3.423	3.193
	1.140	1.145	1.160	1.184	1.217	1.257	1.304	1.356	1.413
	0.387	0.393	0.412	0.442	0.484	0.534	0.591	0.653	0.716
0.95	0.000	0.125	0.246	0.358	0.456	0.538	0.601	0.642	0.661
	2.762	2.731	2.641	2.499	2.315	2.101	1.870	1.634	1.405
	4.251	4.233	4.182	4.096	3.977	3.828	3.650	3.447	3.224
	1.148	1.153	1.168	1.191	1.223	1.262	1.308	1.359	1.415
1.00	0.376	0.383	0.402	0.434	0.476	0.528	0.586	0.649	0.714
	0.000	0.127	0.249	0.362	0.462	0.544	0.607	0.648	0.666
	2.741	2.711	2.624	2.486	2.306	2.097	1.871	1.640	1.414
	4.228	4.212	4.164	4.085	3.975	3.834	3.666	3.471	3.253
F_x	1.156	1.161	1.175	1.198	1.229	1.267	1.312	1.362	1.416
	0.366	0.373	0.393	0.425	0.468	0.521	0.582	0.646	0.712
	0.000	0.128	0.252	0.367	0.467	0.550	0.613	0.654	0.671
	2.719	2.690	2.606	2.471	2.297	2.093	1.872	1.646	1.423
F_x	4.203	4.189	4.145	4.073	3.971	3.840	3.680	3.494	3.282
	1.164	1.169	1.182	1.205	1.235	1.272	1.316	1.365	1.418
	0.356	0.363	0.383	0.416	0.461	0.515	0.577	0.643	0.710
	0.000	0.130	0.255	0.371	0.473	0.556	0.619	0.659	0.675
F_x	2.696	2.668	2.586	2.456	2.287	2.089	1.873	1.651	1.431
	4.178	4.165	4.125	4.059	3.966	3.844	3.694	3.516	3.311
	0.776	0.777	0.780	0.784	0.790	0.798	0.808	0.819	0.831

$$M_{\infty} = 4, \beta_{\kappa} = 30^{\circ}, \alpha = 20^{\circ}$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.00	1.294	1.348	1.400	1.453	1.498	1.537	1.562	1.769	1.566
	0.747	0.778	0.808	0.839	0.865	0.887	0.902	1.021	0.904
	0.603	0.608	0.596	0.548	0.471	0.330	0.124	0.000	0.000
	1.000	0.811	0.664	0.558	0.495	0.468	0.462	0.462	0.462
0.05	2.057	1.772	1.536	1.357	1.246	1.197	1.186	1.771	1.185
	1.357	1.422	1.487	1.554	1.615	1.677	1.744	1.772	
	0.775	0.814	0.852	0.891	0.928	0.967	1.002	1.015	
	0.587	0.585	0.560	0.507	0.416	0.277	0.142	0.000	
0.10	1.013	0.823	0.674	0.566	0.500	0.471	0.462	0.462	
	2.210	1.938	1.713	1.556	1.471	1.495	1.667	1.770	
	1.382	1.450	1.518	1.586	1.650	1.710	1.757	1.775	
	0.782	0.824	0.865	0.905	0.944	0.980	1.004	1.011	
0.15	0.587	0.582	0.555	0.501	0.411	0.289	0.156	0.000	
	1.025	0.834	0.683	0.573	0.505	0.473	0.463	0.461	
	2.294	2.028	1.810	1.655	1.581	1.614	1.718	1.769	
	1.400	1.469	1.538	1.607	1.669	1.724	1.763	1.777	
0.20	0.786	0.829	0.872	0.912	0.950	0.982	1.002	1.007	
	0.591	0.584	0.555	0.501	0.415	0.300	0.163	0.000	
	1.037	0.845	0.693	0.580	0.509	0.475	0.463	0.461	
	2.364	2.103	1.887	1.732	1.657	1.674	1.738	1.768	
0.25	1.413	1.483	1.553	1.620	1.682	1.733	1.767	1.778	
	0.787	0.832	0.875	0.915	0.951	0.981	0.999	1.005	
	0.596	0.587	0.558	0.504	0.420	0.307	0.167	0.000	
	1.048	0.856	0.702	0.587	0.514	0.477	0.463	0.460	
0.30	2.427	2.169	1.953	1.795	1.712	1.712	1.750	1.766	
	1.424	1.494	1.563	1.630	1.690	1.739	1.770	1.780	
	0.788	0.834	0.877	0.916	0.951	0.979	0.997	1.002	
	0.601	0.592	0.561	0.507	0.424	0.311	0.168	0.000	
0.35	1.060	0.867	0.711	0.594	0.518	0.478	0.463	0.460	
	2.484	2.228	2.012	1.848	1.755	1.737	1.756	1.765	
	1.433	1.502	1.571	1.638	1.697	1.743	1.772	1.781	
	0.787	0.834	0.878	0.917	0.950	0.976	0.994	1.000	
0.40	0.607	0.596	0.565	0.510	0.427	0.314	0.169	0.000	
	1.071	0.878	0.720	0.601	0.522	0.480	0.463	0.459	
	2.537	2.283	2.064	1.894	1.790	1.756	1.760	1.763	
	1.440	1.509	1.577	1.643	1.702	1.747	1.774	1.783	
0.45	0.787	0.835	0.878	0.916	0.948	0.974	0.992	0.998	
	0.612	0.600	0.568	0.512	0.430	0.315	0.169	0.000	
	1.082	0.888	0.730	0.608	0.527	0.482	0.463	0.458	
	2.587	2.333	2.113	1.936	1.820	1.771	1.763	1.761	
0.50	1.446	1.514	1.582	1.648	1.705	1.750	1.776	1.784	
	0.786	0.834	0.878	0.916	0.947	0.972	0.989	0.996	
	0.618	0.605	0.571	0.514	0.431	0.316	0.169	0.000	
	1.093	0.899	0.739	0.616	0.531	0.483	0.463	0.458	
0.55	2.634	2.381	2.157	1.973	1.846	1.783	1.764	1.759	
	1.451	1.519	1.586	1.651	1.708	1.752	1.778	1.786	
	0.785	0.834	0.878	0.915	0.945	0.969	0.987	0.994	
	0.623	0.609	0.573	0.515	0.431	0.316	0.168	0.000	
0.60	1.104	0.910	0.749	0.623	0.535	0.485	0.463	0.457	
	2.679	2.427	2.199	2.007	1.869	1.793	1.764	1.757	
	1.456	1.523	1.589	1.654	1.711	1.754	1.779	1.787	
	0.784	0.834	0.878	0.915	0.944	0.967	0.985	0.992	
0.65	0.628	0.612	0.575	0.516	0.431	0.315	0.167	0.000	
	1.115	0.921	0.758	0.630	0.539	0.486	0.462	0.456	
	2.721	2.470	2.239	2.040	1.889	1.802	1.764	1.754	

$$M_{\infty} = 4, \beta_K = 30^\circ, \alpha = 20^\circ$$

ψ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.55	1.459 0.783 0.633 1.126 2.763	1.526 0.834 0.616 0.931 2.511	1.592 0.878 0.577 0.768 2.277	1.656 0.915 0.516 0.637 2.070	1.713 0.943 0.430 0.544 1.909	1.756 0.965 0.314 0.487 1.809	1.781 0.983 0.166 0.462 1.764	1.789 0.990 0.000 0.455 1.751	
0.60	1.462 0.782 0.637 1.137 2.802	1.528 0.833 0.619 0.942 2.551	1.594 0.878 0.579 0.777 2.313	1.657 0.914 0.516 0.645 2.099	1.714 0.942 0.429 0.548 1.927	1.758 0.963 0.312 0.489 1.815	1.783 0.980 0.165 0.461 1.762	1.790 0.987 0.000 0.453 1.747	
0.65	1.465 0.781 0.642 1.148 2.841	1.530 0.833 0.622 0.953 2.589	1.595 0.878 0.580 0.787 2.348	1.658 0.914 0.516 0.653 2.127	1.715 0.941 0.428 0.552 1.944	1.760 0.961 0.310 0.490 1.821	1.784 0.978 0.164 0.460 1.761	1.792 0.985 0.000 0.452 1.743	
0.70	1.467 0.780 0.646 1.159 2.878	1.531 0.833 0.624 0.964 2.627	1.596 0.879 0.580 0.797 2.382	1.659 0.914 0.515 0.660 2.154	1.716 0.940 0.426 0.557 1.961	1.761 0.960 0.308 0.491 1.827	1.786 0.976 0.163 0.459 1.759	1.794 0.983 0.000 0.450 1.739	
0.75	1.469 0.779 0.650 1.170 2.914	1.532 0.833 0.626 0.975 2.663	1.596 0.879 0.581 0.807 2.415	1.659 0.915 0.514 0.668 2.180	1.717 0.940 0.424 0.562 1.977	1.762 0.958 0.306 0.492 1.832	1.788 0.974 0.161 0.458 1.756	1.796 0.980 0.000 0.449 1.734	
0.80	1.471 0.778 0.654 1.180 2.949	1.533 0.833 0.629 0.986 2.698	1.596 0.880 0.581 0.817 2.448	1.659 0.915 0.513 0.676 2.206	1.717 0.940 0.421 0.566 1.993	1.763 0.957 0.304 0.493 1.836	1.790 0.971 0.160 0.457 1.753	1.798 0.978 0.000 0.447 1.729	
0.85	1.472 0.777 0.657 1.191 2.983	1.534 0.833 0.631 0.997 2.733	1.596 0.880 0.582 0.827 2.479	1.658 0.916 0.511 0.684 2.232	1.717 0.940 0.419 0.571 2.010	1.764 0.956 0.301 0.494 1.841	1.792 0.969 0.158 0.455 1.749	1.800 0.975 0.000 0.444 1.722	
0.90	1.473 0.776 0.661 1.202 3.017	1.534 0.833 0.632 1.008 2.767	1.596 0.881 0.582 0.838 2.511	1.658 0.917 0.510 0.693 2.258	1.717 0.940 0.416 0.577 2.026	1.765 0.955 0.299 0.496 1.845	1.794 0.966 0.157 0.454 1.745	1.802 0.972 0.000 0.442 1.715	
0.95	1.474 0.775 0.664 1.212 3.049	1.534 0.833 0.634 1.019 2.800	1.595 0.882 0.582 0.848 2.541	1.657 0.918 0.508 0.701 2.283	1.716 0.941 0.413 0.582 2.042	1.766 0.954 0.296 0.497 1.850	1.796 0.964 0.155 0.452 1.740	1.805 0.969 0.000 0.439 1.707	
1.00	1.474 0.775 0.667 1.223 3.081	1.533 0.834 0.636 1.030 2.833	1.594 0.883 0.581 0.859 2.572	1.656 0.920 0.506 0.710 2.308	1.715 0.942 0.411 0.588 2.059	1.767 0.953 0.293 0.498 1.855	1.798 0.961 0.153 0.450 1.734	1.808 0.965 0.000 0.435 1.697	
F_x	0.844	0.857	0.868	0.876	0.877	0.871	0.861	0.855	

$$M_{\infty} = 4, \beta_{\kappa} = 35^{\circ}, \alpha = 5^{\circ}$$

ξ	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.00	1.199	1.200	1.203	1.208	1.214	1.222	1.232	1.242	1.253
	0.839	0.840	0.842	0.846	0.850	0.856	0.862	0.870	0.877
	0.000	0.022	0.044	0.064	0.083	0.098	0.109	0.117	0.120
	2.233	2.225	2.200	2.161	2.109	2.047	1.978	1.905	1.832
0.05	4.054	4.043	4.011	3.960	3.892	3.809	3.717	3.619	3.519
	1.206	1.208	1.213	1.222	1.234	1.248	1.265	1.284	1.304
	0.829	0.830	0.834	0.840	0.849	0.859	0.871	0.884	0.899
	0.000	0.025	0.049	0.071	0.091	0.108	0.120	0.129	0.132
0.10	2.233	2.224	2.200	2.161	2.109	2.047	1.978	1.905	1.832
	4.053	4.046	4.023	3.987	3.939	3.883	3.820	3.756	3.693
	1.213	1.215	1.221	1.229	1.241	1.256	1.273	1.292	1.312
	0.819	0.820	0.824	0.831	0.840	0.850	0.863	0.876	0.891
0.15	0.000	0.026	0.052	0.076	0.097	0.114	0.128	0.137	0.141
	2.231	2.223	2.198	2.159	2.107	2.046	1.977	1.904	1.831
	4.051	4.044	4.022	3.987	3.942	3.887	3.827	3.765	3.703
	1.220	1.222	1.228	1.237	1.249	1.264	1.281	1.300	1.320
0.20	0.809	0.811	0.815	0.821	0.830	0.841	0.854	0.868	0.883
	0.000	0.027	0.054	0.079	0.101	0.120	0.134	0.143	0.147
	2.228	2.220	2.196	2.157	2.105	2.044	1.975	1.903	1.830
	4.047	4.040	4.019	3.986	3.942	3.889	3.830	3.769	3.707
0.25	1.227	1.229	1.235	1.244	1.256	1.271	1.288	1.307	1.327
	0.800	0.801	0.806	0.812	0.821	0.833	0.846	0.860	0.875
	0.000	0.028	0.056	0.082	0.105	0.124	0.139	0.148	0.153
	2.224	2.216	2.192	2.153	2.102	2.041	1.972	1.900	1.827
0.30	4.042	4.035	4.015	3.983	3.939	3.888	3.830	3.770	3.709
	1.234	1.236	1.242	1.251	1.263	1.278	1.295	1.314	1.333
	0.791	0.792	0.796	0.803	0.813	0.824	0.837	0.852	0.867
	0.000	0.029	0.058	0.084	0.108	0.127	0.143	0.153	0.157
0.35	2.219	2.211	2.187	2.149	2.098	2.037	1.969	1.897	1.824
	4.036	4.029	4.010	3.978	3.936	3.885	3.829	3.769	3.709
	1.241	1.243	1.248	1.257	1.270	1.284	1.302	1.320	1.340
	0.782	0.783	0.788	0.795	0.804	0.816	0.829	0.844	0.859
0.40	0.000	0.030	0.059	0.086	0.110	0.131	0.146	0.156	0.161
	2.214	2.206	2.182	2.144	2.093	2.032	1.965	1.893	1.821
	4.029	4.022	4.003	3.972	3.931	3.881	3.825	3.766	3.707
	1.248	1.250	1.255	1.264	1.276	1.291	1.308	1.327	1.346
0.45	0.773	0.774	0.779	0.786	0.796	0.808	0.821	0.836	0.851
	0.000	0.030	0.060	0.088	0.113	0.133	0.149	0.160	0.164
	2.207	2.199	2.175	2.138	2.087	2.027	1.959	1.888	1.816
	4.020	4.014	3.995	3.965	3.924	3.876	3.821	3.763	3.703
0.50	1.255	1.257	1.262	1.271	1.283	1.298	1.315	1.333	1.353
	0.764	0.766	0.770	0.778	0.788	0.800	0.813	0.828	0.844
	0.000	0.031	0.062	0.090	0.115	0.136	0.152	0.163	0.167
	2.200	2.192	2.168	2.131	2.081	2.021	1.954	1.883	1.811
0.55	4.011	4.004	3.986	3.956	3.917	3.869	3.815	3.757	3.698
	1.261	1.263	1.269	1.277	1.289	1.304	1.321	1.339	1.359
	0.756	0.757	0.762	0.769	0.779	0.792	0.806	0.821	0.837
	0.000	0.032	0.063	0.091	0.117	0.138	0.155	0.165	0.170
0.60	2.192	2.184	2.160	2.123	2.073	2.014	1.947	1.877	1.805
	4.000	3.994	3.976	3.947	3.908	3.861	3.808	3.751	3.692
	1.268	1.270	1.275	1.284	1.296	1.310	1.327	1.345	1.365
	0.748	0.749	0.754	0.761	0.772	0.784	0.798	0.813	0.829
0.65	0.000	0.032	0.064	0.093	0.119	0.140	0.157	0.168	0.173
	2.183	2.175	2.152	2.115	2.066	2.007	1.940	1.870	1.799
	3.988	3.982	3.965	3.937	3.899	3.852	3.800	3.744	3.685

$$M_{\infty} = 4, \beta_{\kappa} = 35^{\circ}, \alpha = 5^{\circ}$$

u''	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.55	1.275 0.740 0.000 2.173 3.976	1.276 0.741 0.033 2.165 3.970	1.282 0.746 0.065 2.143 3.953	1.291 0.754 0.094 2.106 3.925	1.302 0.764 0.120 2.057 3.888	1.317 0.776 0.142 1.998 3.843	1.333 0.791 0.159 1.933 3.791	1.352 0.806 0.170 1.863 3.735	1.371 0.822 0.175 1.792 3.677
0.60	1.281 0.732 0.000 2.163 3.962	1.283 0.733 0.033 2.155 3.957	1.288 0.738 0.065 2.133 3.940	1.297 0.746 0.095 2.096 3.913	1.309 0.756 0.122 2.048 3.876	1.323 0.769 0.144 1.990 3.832	1.340 0.783 0.161 1.925 3.781	1.358 0.799 0.172 1.855 3.726	1.377 0.815 0.177 1.785 3.668
0.65	1.288 0.724 0.000 2.152 3.948	1.290 0.725 0.033 2.144 3.943	1.295 0.730 0.066 2.122 3.926	1.303 0.738 0.097 2.086 3.900	1.315 0.749 0.123 2.038 3.864	1.329 0.762 0.146 1.981 3.820	1.346 0.776 0.163 1.916 3.770	1.364 0.792 0.174 1.847 3.715	1.382 0.809 0.179 1.777 3.658
0.70	1.294 0.716 0.000 2.140 3.933	1.296 0.718 0.034 2.133 3.927	1.301 0.723 0.067 2.111 3.912	1.310 0.731 0.098 2.075 3.886	1.321 0.741 0.125 2.028 3.850	1.336 0.754 0.147 1.971 3.807	1.352 0.769 0.165 1.907 3.758	1.370 0.785 0.176 1.838 3.704	1.388 0.802 0.180 1.769 3.647
0.75	1.301 0.708 0.000 2.128 3.917	1.303 0.710 0.034 2.121 3.911	1.308 0.715 0.068 2.099 3.896	1.316 0.723 0.099 2.064 3.871	1.328 0.734 0.126 2.017 3.836	1.342 0.747 0.149 1.960 3.794	1.358 0.762 0.166 1.897 3.745	1.375 0.778 0.178 1.829 3.692	1.394 0.795 0.182 1.760 3.636
0.80	1.308 0.701 0.000 2.115 3.900	1.309 0.703 0.035 2.108 3.895	1.314 0.708 0.068 2.086 3.880	1.323 0.716 0.100 2.052 3.855	1.334 0.727 0.127 2.005 3.821	1.348 0.740 0.150 1.949 3.780	1.364 0.755 0.168 1.886 3.732	1.381 0.772 0.179 1.819 3.679	1.400 0.789 0.184 1.751 3.623
0.85	1.314 0.693 0.000 2.102 3.882	1.316 0.695 0.035 2.094 3.877	1.321 0.700 0.069 2.073 3.862	1.329 0.709 0.101 2.039 3.838	1.340 0.720 0.128 1.993 3.805	1.354 0.733 0.152 1.938 3.764	1.370 0.749 0.169 1.875 3.717	1.387 0.765 0.180 1.809 3.665	1.405 0.782 0.185 1.741 3.610
0.90	1.321 0.686 0.000 2.087 3.863	1.323 0.688 0.035 2.080 3.858	1.328 0.693 0.070 2.059 3.844	1.336 0.701 0.101 2.025 3.820	1.347 0.713 0.130 1.980 3.788	1.360 0.726 0.153 1.926 3.748	1.376 0.742 0.171 1.864 3.702	1.393 0.759 0.182 1.798 3.650	1.411 0.776 0.186 1.731 3.595
0.95	1.328 0.679 0.000 2.073 3.844	1.329 0.681 0.036 2.066 3.839	1.334 0.686 0.070 2.045 3.825	1.342 0.694 0.102 2.012 3.802	1.353 0.706 0.131 1.967 3.770	1.367 0.719 0.154 1.913 3.731	1.382 0.735 0.172 1.852 3.686	1.399 0.752 0.183 1.787 3.635	1.417 0.770 0.187 1.720 3.580
1.00	1.334 0.671 0.000 2.057 3.823	1.336 0.673 0.036 2.050 3.819	1.341 0.679 0.071 2.030 3.805	1.349 0.687 0.103 1.997 3.783	1.360 0.699 0.132 1.953 3.752	1.373 0.713 0.155 1.900 3.714	1.388 0.729 0.173 1.839 3.669	1.405 0.746 0.184 1.775 3.618	1.423 0.763 0.189 1.708 3.564
F_x	0.926	0.926	0.926	0.926	0.926	0.926	0.926	0.925	0.925

$$M_{\infty} = 4, \beta_k = 35^\circ, \alpha = 5^\circ$$

ξ	θ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.00	1.264	1.275	1.284	1.293	1.300	1.306	1.309	1.409	1.310
	0.885	0.892	0.899	0.905	0.910	0.914	0.916	0.987	0.917
	0.118	0.111	0.100	0.085	0.067	0.046	0.023	0.000	0.000
	1.761	1.696	1.638	1.588	1.549	1.521	1.504	1.498	1.498
	3.422	3.331	3.249	3.178	3.122	3.081	3.056	3.452	3.048
0.05	1.324	1.344	1.364	1.381	1.395	1.406	1.413	1.416	
	0.913	0.928	0.941	0.953	0.964	0.971	0.976	0.978	
	0.130	0.123	0.112	0.095	0.075	0.052	0.026	0.000	
	1.761	1.696	1.638	1.588	1.549	1.520	1.503	1.497	
	3.634	3.582	3.538	3.504	3.480	3.463	3.454	3.451	
0.10	1.333	1.353	1.371	1.388	1.402	1.413	1.419	1.422	
	0.906	0.920	0.934	0.946	0.956	0.963	0.968	0.970	
	0.139	0.132	0.120	0.103	0.081	0.056	0.028	0.000	
	1.761	1.695	1.637	1.587	1.548	1.519	1.502	1.496	
	3.644	3.591	3.546	3.510	3.483	3.464	3.453	3.449	
0.15	1.340	1.360	1.378	1.395	1.409	1.419	1.425	1.428	
	0.898	0.912	0.926	0.938	0.948	0.955	0.960	0.961	
	0.146	0.139	0.126	0.108	0.085	0.059	0.030	0.000	
	1.759	1.694	1.635	1.586	1.546	1.517	1.500	1.494	
	3.649	3.596	3.550	3.512	3.483	3.462	3.450	3.446	
0.20	1.347	1.367	1.385	1.401	1.415	1.425	1.431	1.433	
	0.890	0.904	0.918	0.930	0.940	0.948	0.952	0.954	
	0.151	0.144	0.131	0.112	0.089	0.061	0.031	0.000	
	1.757	1.691	1.633	1.583	1.544	1.515	1.497	1.491	
	3.651	3.597	3.550	3.511	3.481	3.459	3.446	3.442	
0.25	1.353	1.373	1.391	1.407	1.421	1.431	1.437	1.439	
	0.882	0.897	0.910	0.923	0.933	0.940	0.945	0.946	
	0.156	0.148	0.134	0.115	0.091	0.063	0.032	0.000	
	1.754	1.688	1.630	1.580	1.541	1.512	1.494	1.488	
	3.650	3.597	3.549	3.509	3.477	3.455	3.441	3.436	
0.30	1.360	1.379	1.397	1.413	1.426	1.436	1.442	1.444	
	0.874	0.889	0.903	0.915	0.925	0.933	0.937	0.939	
	0.159	0.152	0.138	0.118	0.093	0.065	0.033	0.000	
	1.750	1.685	1.626	1.577	1.537	1.508	1.490	1.484	
	3.648	3.594	3.546	3.505	3.473	3.449	3.435	3.430	
0.35	1.366	1.385	1.403	1.419	1.432	1.442	1.448	1.450	
	0.867	0.882	0.896	0.908	0.918	0.926	0.930	0.932	
	0.163	0.155	0.140	0.120	0.095	0.066	0.033	0.000	
	1.746	1.681	1.622	1.572	1.533	1.504	1.486	1.480	
	3.645	3.591	3.542	3.500	3.467	3.443	3.428	3.423	
0.40	1.372	1.391	1.409	1.425	1.438	1.447	1.453	1.455	
	0.860	0.875	0.889	0.901	0.911	0.919	0.924	0.925	
	0.166	0.157	0.143	0.122	0.097	0.067	0.034	0.000	
	1.741	1.676	1.618	1.568	1.528	1.499	1.481	1.475	
	3.640	3.586	3.536	3.494	3.460	3.435	3.420	3.415	
0.45	1.378	1.397	1.415	1.430	1.443	1.453	1.458	1.460	
	0.852	0.868	0.882	0.894	0.904	0.912	0.917	0.918	
	0.168	0.160	0.145	0.124	0.098	0.068	0.035	0.000	
	1.736	1.671	1.612	1.563	1.523	1.493	1.476	1.470	
	3.634	3.580	3.530	3.487	3.452	3.427	3.411	3.406	
0.50	1.384	1.403	1.420	1.436	1.448	1.458	1.464	1.466	
	0.845	0.861	0.875	0.888	0.898	0.906	0.910	0.912	
	0.171	0.162	0.147	0.126	0.099	0.069	0.035	0.000	
	1.730	1.665	1.607	1.557	1.517	1.488	1.470	1.464	
	3.628	3.573	3.522	3.479	3.444	3.418	3.402	3.396	

$$M_{\infty} = 4, \beta_{\kappa} = 35^{\circ}, \alpha = 5^{\circ}$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.55	1.390 0.838 0.173 1.723 3.620	1.409 0.854 0.164 1.659 3.564	1.426 0.868 0.149 1.600 3.514	1.441 0.881 0.127 1.551 3.470	1.454 0.891 0.101 1.511 3.434	1.463 0.899 0.069 1.482 3.408	1.469 0.904 0.035 1.464 3.391	1.471 0.905 0.000 1.458 3.386	
0.60	1.396 0.832 0.175 1.716 3.611	1.414 0.847 0.166 1.652 3.556	1.431 0.862 0.150 1.594 3.505	1.447 0.875 0.129 1.544 3.460	1.459 0.885 0.102 1.504 3.424	1.468 0.893 0.070 1.475 3.397	1.474 0.898 0.036 1.457 3.380	1.476 0.899 0.000 1.451 3.375	
0.65	1.401 0.825 0.177 1.709 3.601	1.420 0.841 0.167 1.645 3.546	1.437 0.855 0.152 1.587 3.495	1.452 0.868 0.130 1.537 3.450	1.464 0.879 0.102 1.497 3.413	1.474 0.887 0.071 1.468 3.386	1.479 0.891 0.036 1.450 3.369	1.481 0.893 0.000 1.444 3.363	
0.70	1.407 0.819 0.178 1.701 3.590	1.425 0.834 0.169 1.637 3.535	1.442 0.849 0.153 1.579 3.484	1.457 0.862 0.131 1.529 3.438	1.470 0.873 0.103 1.490 3.401	1.479 0.880 0.071 1.460 3.373	1.484 0.885 0.036 1.443 3.356	1.486 0.887 0.000 1.436 3.351	
0.75	1.413 0.812 0.180 1.692 3.579	1.431 0.828 0.170 1.629 3.523	1.448 0.843 0.154 1.571 3.472	1.463 0.856 0.132 1.521 3.426	1.475 0.867 0.104 1.482 3.389	1.484 0.874 0.072 1.452 3.361	1.490 0.879 0.036 1.435 3.343	1.492 0.881 0.000 1.429 3.337	
0.80	1.418 0.806 0.181 1.683 3.566	1.436 0.822 0.172 1.620 3.511	1.453 0.837 0.155 1.563 3.459	1.468 0.850 0.133 1.513 3.413	1.480 0.861 0.105 1.473 3.375	1.489 0.868 0.072 1.444 3.347	1.495 0.873 0.037 1.426 3.329	1.497 0.875 0.000 1.420 3.323	
0.85	1.424 0.799 0.182 1.674 3.553	1.442 0.816 0.173 1.611 3.498	1.458 0.831 0.156 1.554 3.446	1.473 0.844 0.133 1.504 3.400	1.485 0.855 0.105 1.465 3.361	1.494 0.863 0.073 1.435 3.333	1.500 0.867 0.037 1.417 3.315	1.502 0.869 0.000 1.411 3.309	
0.90	1.429 0.793 0.184 1.664 3.539	1.447 0.810 0.174 1.601 3.484	1.464 0.825 0.157 1.544 3.432	1.478 0.838 0.134 1.495 3.385	1.491 0.849 0.106 1.455 3.347	1.500 0.857 0.073 1.426 3.318	1.505 0.862 0.037 1.408 3.299	1.507 0.863 0.000 1.402 3.293	
0.95	1.435 0.787 0.185 1.654 3.524	1.453 0.803 0.175 1.591 3.469	1.469 0.819 0.158 1.534 3.417	1.484 0.832 0.135 1.485 3.370	1.496 0.843 0.106 1.446 3.331	1.505 0.851 0.073 1.416 3.302	1.511 0.856 0.037 1.399 3.283	1.512 0.857 0.000 1.393 3.277	
1.00	1.441 0.781 0.186 1.643 3.509	1.458 0.797 0.176 1.581 3.454	1.475 0.813 0.159 1.524 3.401	1.489 0.826 0.135 1.475 3.354	1.501 0.837 0.107 1.436 3.315	1.510 0.845 0.073 1.406 3.285	1.516 0.850 0.037 1.389 3.267	1.518 0.852 0.000 1.383 3.260	
E_x	0.924	0.923	0.922	0.921	0.920	0.919	0.919	0.919	

$$M_{\infty} = 4, \beta_{\kappa} = 35^{\circ}, \alpha = 10^{\circ}$$

ξ	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.00	1.073	1.075	1.082	1.092	1.106	1.123	1.143	1.166	1.189
	0.751	0.753	0.757	0.764	0.774	0.786	0.800	0.816	0.833
	0.000	0.045	0.090	0.132	0.160	0.202	0.228	0.246	0.255
	2.619	2.600	2.545	2.457	2.343	2.209	2.062	1.912	1.765
0.05	4.282	4.260	4.196	4.092	3.955	3.791	3.610	3.420	3.231
	1.081	1.084	1.094	1.110	1.131	1.157	1.188	1.223	1.261
	0.740	0.743	0.749	0.761	0.776	0.795	0.817	0.842	0.869
	0.000	0.049	0.096	0.141	0.181	0.215	0.241	0.259	0.268
0.10	2.618	2.600	2.545	2.458	2.344	2.210	2.064	1.914	1.767
	4.281	4.264	4.211	4.128	4.017	3.887	3.745	3.598	3.456
	1.089	1.092	1.102	1.119	1.141	1.168	1.200	1.236	1.275
	0.729	0.732	0.739	0.751	0.767	0.788	0.811	0.837	0.865
0.15	0.000	0.051	0.101	0.148	0.190	0.225	0.253	0.272	0.282
	2.616	2.598	2.543	2.457	2.343	2.210	2.065	1.915	1.769
	4.279	4.262	4.213	4.134	4.029	3.906	3.770	3.631	3.494
	1.097	1.100	1.110	1.127	1.150	1.178	1.210	1.247	1.286
0.20	0.719	0.721	0.729	0.742	0.759	0.780	0.804	0.831	0.860
	0.000	0.053	0.105	0.153	0.197	0.233	0.263	0.283	0.293
	2.613	2.594	2.541	2.455	2.342	2.210	2.065	1.916	1.770
	4.275	4.259	4.212	4.136	4.036	3.918	3.788	3.652	3.520
0.25	1.105	1.108	1.118	1.135	1.158	1.186	1.219	1.256	1.295
	0.708	0.711	0.719	0.732	0.750	0.771	0.796	0.824	0.854
	0.000	0.055	0.108	0.158	0.203	0.241	0.271	0.292	0.302
	2.608	2.590	2.537	2.451	2.340	2.208	2.064	1.916	1.770
0.30	4.270	4.254	4.209	4.137	4.041	3.926	3.800	3.669	3.539
	1.112	1.116	1.126	1.143	1.166	1.194	1.227	1.264	1.303
	0.698	0.701	0.709	0.723	0.741	0.763	0.789	0.817	0.847
	0.000	0.056	0.111	0.162	0.208	0.247	0.278	0.299	0.310
0.35	2.603	2.585	2.532	2.447	2.336	2.206	2.063	1.915	1.770
	4.263	4.248	4.205	4.135	4.042	3.932	3.809	3.681	3.554
	1.120	1.123	1.134	1.151	1.174	1.202	1.235	1.272	1.310
	0.688	0.691	0.700	0.713	0.732	0.755	0.781	0.810	0.840
0.40	0.000	0.058	0.114	0.166	0.213	0.253	0.285	0.306	0.317
	2.596	2.578	2.525	2.442	2.332	2.203	2.061	1.914	1.769
	4.255	4.241	4.199	4.132	4.042	3.935	3.816	3.690	3.565
	1.127	1.131	1.141	1.158	1.181	1.210	1.242	1.279	1.318
0.45	0.679	0.682	0.690	0.704	0.723	0.747	0.774	0.803	0.834
	0.000	0.059	0.116	0.170	0.218	0.258	0.290	0.313	0.324
	2.588	2.570	2.518	2.436	2.327	2.199	2.058	1.912	1.767
	4.246	4.232	4.192	4.127	4.041	3.937	3.821	3.698	3.574
0.50	1.135	1.138	1.149	1.166	1.189	1.217	1.250	1.286	1.324
	0.669	0.672	0.681	0.696	0.715	0.739	0.766	0.796	0.827
	0.000	0.060	0.119	0.173	0.222	0.263	0.296	0.318	0.330
	2.579	2.562	2.510	2.429	2.321	2.194	2.054	1.909	1.765
0.55	4.236	4.222	4.184	4.121	4.037	3.937	3.823	3.703	3.581
	1.142	1.146	1.156	1.173	1.196	1.224	1.256	1.292	1.331
	0.660	0.663	0.672	0.687	0.707	0.731	0.759	0.789	0.821
	0.000	0.061	0.121	0.176	0.226	0.268	0.301	0.324	0.335
0.60	2.569	2.552	2.502	2.421	2.314	2.189	2.050	1.906	1.763
	4.224	4.211	4.174	4.114	4.033	3.935	3.825	3.707	3.586
	1.150	1.153	1.163	1.180	1.203	1.231	1.263	1.299	1.337
	0.651	0.654	0.663	0.678	0.699	0.723	0.752	0.782	0.814
0.65	0.000	0.062	0.123	0.179	0.230	0.272	0.306	0.328	0.340
	2.559	2.542	2.492	2.412	2.307	2.182	2.045	1.902	1.760
	4.212	4.199	4.164	4.105	4.027	3.932	3.824	3.709	3.590
	1.156	1.159	1.169	1.186	1.209	1.237	1.269	1.305	1.343

$$M_{\infty} = 4, \beta_{\kappa} = 35^{\circ}, \alpha = 10^{\circ}$$

m°	θ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.55	1.157 0.642 0.000 2.547 4.198	1.160 0.645 0.063 2.531 4.186	1.171 0.655 0.125 2.481 4.152	1.187 0.670 0.182 2.403 4.096	1.210 0.691 0.233 2.299 4.020	1.238 0.716 0.276 2.176 3.928	1.270 0.744 0.310 2.040 3.823	1.305 0.776 0.333 1.898 3.709	1.343 0.808 0.344 1.756 3.592
0.60	1.164 0.633 0.000 2.535 4.184	1.168 0.636 0.064 2.518 4.172	1.178 0.646 0.127 2.470 4.139	1.194 0.662 0.185 2.392 4.085	1.217 0.683 0.236 2.290 4.012	1.244 0.708 0.280 2.168 3.922	1.276 0.737 0.314 2.034 3.820	1.311 0.769 0.337 1.893 3.709	1.349 0.802 0.348 1.752 3.593
0.65	1.172 0.625 0.000 2.522 4.168	1.175 0.628 0.065 2.506 4.157	1.185 0.638 0.128 2.458 4.125	1.201 0.654 0.187 2.381 4.073	1.224 0.675 0.239 2.280 4.003	1.251 0.701 0.284 2.160 3.916	1.282 0.731 0.318 2.027 3.816	1.317 0.762 0.341 1.887 3.707	1.354 0.795 0.352 1.748 3.592
0.70	1.179 0.616 0.000 2.508 4.152	1.182 0.619 0.066 2.492 4.141	1.192 0.629 0.130 2.445 4.111	1.208 0.646 0.189 2.370 4.061	1.230 0.667 0.242 2.270 3.992	1.257 0.694 0.287 2.151 3.909	1.289 0.724 0.322 2.020 3.811	1.323 0.756 0.345 1.882 3.704	1.360 0.789 0.356 1.743 3.591
0.75	1.186 0.608 0.000 2.493 4.134	1.190 0.611 0.067 2.478 4.125	1.199 0.621 0.132 2.431 4.095	1.215 0.638 0.192 2.357 4.047	1.237 0.660 0.245 2.259 3.981	1.264 0.687 0.290 2.142 3.900	1.295 0.717 0.325 2.012 3.805	1.329 0.750 0.348 1.875 3.700	1.366 0.784 0.359 1.738 3.588
0.80	1.194 0.599 0.000 2.478 4.116	1.197 0.603 0.067 2.462 4.107	1.207 0.613 0.133 2.417 4.079	1.222 0.630 0.194 2.344 4.032	1.244 0.652 0.248 2.247 3.969	1.270 0.680 0.293 2.132 3.890	1.301 0.710 0.328 2.004 3.798	1.335 0.744 0.351 1.868 3.695	1.371 0.778 0.362 1.732 3.585
0.85	1.201 0.591 0.000 2.462 4.097	1.204 0.595 0.068 2.447 4.088	1.214 0.605 0.135 2.402 4.061	1.229 0.622 0.196 2.330 4.017	1.250 0.645 0.251 2.235 3.956	1.277 0.673 0.296 2.122 3.880	1.307 0.704 0.331 1.995 3.790	1.340 0.737 0.354 1.861 3.689	1.376 0.772 0.365 1.726 3.580
0.90	1.208 0.583 0.000 2.445 4.077	1.212 0.587 0.069 2.430 4.068	1.221 0.597 0.136 2.386 4.043	1.236 0.615 0.198 2.316 4.000	1.257 0.638 0.253 2.222 3.942	1.283 0.666 0.299 2.111 3.868	1.313 0.697 0.334 1.986 3.781	1.346 0.731 0.357 1.853 3.683	1.382 0.766 0.368 1.719 3.575
0.95	1.216 0.575 0.000 2.427 4.056	1.219 0.579 0.070 2.413 4.048	1.228 0.589 0.137 2.370 4.023	1.243 0.607 0.200 2.301 3.983	1.264 0.630 0.255 2.209 3.927	1.289 0.659 0.302 2.099 3.856	1.319 0.691 0.337 1.976 3.771	1.352 0.725 0.360 1.845 3.675	1.387 0.761 0.370 1.712 3.569
1.00	1.223 0.567 0.000 2.409 4.034	1.226 0.571 0.070 2.395 4.026	1.236 0.582 0.139 2.353 4.003	1.250 0.599 0.202 2.285 3.964	1.271 0.623 0.258 2.195 3.911	1.296 0.652 0.304 2.087 3.843	1.325 0.685 0.340 1.965 3.761	1.357 0.720 0.363 1.836 3.666	1.392 0.755 0.373 1.705 3.561
F_x	0.939	0.939	0.940	0.940	0.941	0.942	0.943	0.943	0.943

$$M_{\infty} = 4, \beta_K = 35^{\circ}, \alpha = 10^{\circ}$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.00	1.214 0.850 0.253 1.628 3.049	1.238 0.867 0.241 1.505 2.883	1.261 0.883 0.218 1.401 2.739	1.281 0.897 0.185 1.316 2.619	1.298 0.909 0.144 1.252 2.528	1.310 0.917 0.098 1.207 2.463	1.317 0.922 0.049 1.181 2.425	1.494 1.046 0.000 1.173 3.074	1.320 0.924 0.000 1.173 2.412
0.05	1.301 0.897 0.266 1.630 3.327	1.342 0.926 0.253 1.507 3.220	1.382 0.955 0.230 1.402 3.140	1.419 0.981 0.198 1.317 3.091	1.452 1.004 0.157 1.252 3.069	1.478 1.023 0.109 1.207 3.066	1.494 1.034 0.056 1.181 3.071	1.500 1.038 0.000 1.172 3.073	
0.10	1.315 0.895 0.280 1.631 3.370	1.356 0.924 0.269 1.508 3.264	1.395 0.952 0.246 1.403 3.182	1.431 0.977 0.213 1.317 3.126	1.462 0.999 0.170 1.252 3.093	1.486 1.016 0.119 1.207 3.078	1.500 1.027 0.061 1.180 3.072	1.505 1.030 0.000 1.171 3.071	
0.15	1.326 0.889 0.292 1.632 3.398	1.366 0.919 0.280 1.509 3.292	1.405 0.947 0.257 1.403 3.207	1.440 0.972 0.223 1.317 3.146	1.469 0.993 0.179 1.251 3.106	1.492 1.009 0.125 1.206 3.083	1.506 1.020 0.064 1.179 3.072	1.511 1.023 0.000 1.170 3.068	
0.20	1.335 0.884 0.302 1.633 3.418	1.375 0.913 0.290 1.509 3.312	1.413 0.941 0.266 1.403 3.225	1.447 0.966 0.231 1.316 3.159	1.476 0.987 0.185 1.250 3.113	1.498 1.003 0.130 1.204 3.085	1.511 1.013 0.067 1.177 3.069	1.516 1.016 0.000 1.168 3.064	
0.25	1.343 0.877 0.310 1.633 3.434	1.382 0.907 0.298 1.509 3.327	1.420 0.935 0.274 1.402 3.237	1.454 0.960 0.238 1.315 3.168	1.482 0.981 0.191 1.249 3.118	1.503 0.996 0.133 1.202 3.084	1.516 1.006 0.069 1.174 3.066	1.521 1.010 0.000 1.165 3.059	
0.30	1.350 0.871 0.317 1.632 3.446	1.389 0.901 0.305 1.508 3.338	1.427 0.929 0.280 1.401 3.247	1.460 0.954 0.243 1.314 3.174	1.488 0.975 0.195 1.246 3.119	1.508 0.990 0.136 1.199 3.082	1.521 1.000 0.070 1.171 3.061	1.525 1.003 0.000 1.162 3.054	
0.35	1.357 0.865 0.323 1.631 3.455	1.396 0.895 0.311 1.507 3.347	1.433 0.923 0.286 1.400 3.254	1.466 0.948 0.248 1.312 3.177	1.493 0.968 0.199 1.244 3.119	1.513 0.984 0.139 1.196 3.079	1.526 0.994 0.071 1.168 3.056	1.530 0.997 0.000 1.159 3.048	
0.40	1.364 0.858 0.329 1.629 3.463	1.402 0.889 0.316 1.505 3.354	1.439 0.917 0.290 1.398 3.258	1.471 0.942 0.252 1.309 3.179	1.498 0.963 0.201 1.241 3.118	1.518 0.978 0.141 1.193 3.075	1.530 0.988 0.072 1.165 3.049	1.535 0.991 0.000 1.155 3.041	
0.45	1.370 0.852 0.334 1.627 3.468	1.408 0.883 0.321 1.503 3.359	1.444 0.911 0.294 1.395 3.261	1.476 0.936 0.255 1.307 3.180	1.503 0.957 0.204 1.238 3.116	1.523 0.972 0.142 1.189 3.070	1.535 0.982 0.073 1.161 3.042	1.539 0.986 0.000 1.151 3.033	
0.50	1.376 0.846 0.339 1.624 3.472	1.414 0.877 0.325 1.501 3.362	1.450 0.905 0.298 1.393 3.263	1.482 0.930 0.258 1.303 3.179	1.508 0.951 0.206 1.234 3.112	1.528 0.967 0.144 1.185 3.064	1.540 0.977 0.074 1.156 3.034	1.544 0.980 0.000 1.146 3.024	

$$M_{\infty} = 4, \beta_{\kappa} = 35^{\circ}, \alpha = 10^{\circ}$$

ξ	θ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.55	1.381 0.840 0.343 1.621 3.475	1.419 0.871 0.329 1.498 3.364	1.455 0.900 0.301 1.390 3.263	1.487 0.925 0.261 1.300 3.177	1.513 0.946 0.208 1.230 3.107	1.532 0.961 0.145 1.181 3.057	1.544 0.971 0.074 1.152 3.026	1.548 0.975 0.000 1.142 3.015	
0.60	1.387 0.834 0.347 1.618 3.476	1.425 0.865 0.332 1.494 3.365	1.460 0.894 0.304 1.386 3.262	1.491 0.919 0.263 1.296 3.174	1.517 0.940 0.210 1.226 3.102	1.537 0.956 0.146 1.176 3.049	1.549 0.966 0.075 1.147 3.017	1.553 0.969 0.000 1.137 3.006	
0.65	1.392 0.828 0.350 1.614 3.476	1.430 0.860 0.335 1.491 3.364	1.465 0.889 0.306 1.382 3.260	1.496 0.914 0.265 1.292 3.169	1.522 0.935 0.211 1.221 3.095	1.541 0.951 0.147 1.171 3.041	1.553 0.961 0.075 1.141 3.007	1.557 0.964 0.000 1.131 2.996	
0.70	1.398 0.823 0.353 1.610 3.475	1.435 0.854 0.338 1.487 3.363	1.470 0.883 0.309 1.378 3.257	1.501 0.909 0.266 1.288 3.164	1.527 0.930 0.212 1.216 3.088	1.546 0.946 0.147 1.166 3.031	1.558 0.955 0.075 1.136 2.997	1.562 0.959 0.000 1.125 2.985	
0.75	1.403 0.817 0.356 1.605 3.473	1.440 0.849 0.340 1.482 3.360	1.474 0.878 0.311 1.374 3.254	1.505 0.904 0.268 1.283 3.159	1.531 0.925 0.213 1.211 3.080	1.550 0.940 0.148 1.160 3.022	1.562 0.950 0.076 1.130 2.986	1.566 0.954 0.000 1.119 2.973	
0.80	1.408 0.811 0.359 1.600 3.470	1.445 0.844 0.343 1.478 3.357	1.479 0.873 0.313 1.369 3.249	1.510 0.898 0.269 1.278 3.152	1.536 0.920 0.214 1.206 3.072	1.555 0.935 0.149 1.154 3.011	1.566 0.945 0.076 1.123 2.974	1.570 0.949 0.000 1.113 2.961	
0.85	1.413 0.806 0.362 1.595 3.466	1.449 0.838 0.345 1.472 3.352	1.484 0.868 0.314 1.364 3.243	1.515 0.893 0.270 1.272 3.145	1.540 0.915 0.215 1.200 3.062	1.559 0.930 0.149 1.148 3.000	1.571 0.940 0.076 1.117 2.962	1.575 0.943 0.000 1.106 2.949	
0.90	1.418 0.801 0.364 1.589 3.462	1.454 0.833 0.347 1.467 3.347	1.488 0.863 0.316 1.358 3.237	1.519 0.889 0.271 1.266 3.137	1.545 0.910 0.215 1.194 3.052	1.564 0.925 0.149 1.141 2.988	1.575 0.935 0.076 1.110 2.949	1.579 0.938 0.000 1.099 2.935	
0.95	1.423 0.795 0.366 1.583 3.456	1.459 0.828 0.349 1.461 3.341	1.493 0.858 0.317 1.353 3.230	1.524 0.884 0.272 1.260 3.128	1.549 0.905 0.216 1.187 3.041	1.568 0.920 0.150 1.134 2.976	1.580 0.930 0.076 1.103 2.935	1.584 0.933 0.000 1.092 2.921	
1.00	1.428 0.790 0.368 1.576 3.449	1.464 0.823 0.350 1.455 3.335	1.497 0.853 0.318 1.347 3.222	1.528 0.879 0.273 1.254 3.118	1.554 0.900 0.216 1.180 3.030	1.573 0.915 0.150 1.127 2.962	1.585 0.925 0.077 1.095 2.920	1.589 0.928 0.000 1.084 2.906	
F_x	0.943	0.941	0.939	0.935	0.932	0.929	0.927	0.926	

$$M_{\infty} = 4, \beta_{\kappa} = 35^{\circ}, \alpha = 15^{\circ}$$

ξ	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.00	0.934	0.937	0.947	0.963	0.985	1.012	1.043	1.079	1.117
	0.654	0.656	0.663	0.674	0.689	0.708	0.730	0.755	0.782
	0.000	0.069	0.137	0.201	0.260	0.312	0.355	0.388	0.408
	3.000	2.969	2.879	2.736	2.552	2.339	2.112	1.883	1.665
	4.470	4.437	4.340	4.186	3.983	3.743	3.479	3.206	2.936
0.05	0.943	0.947	0.960	0.981	1.011	1.047	1.089	1.137	1.190
	0.642	0.645	0.654	0.670	0.691	0.717	0.747	0.782	0.820
	0.000	0.072	0.113	0.210	0.270	0.322	0.365	0.395	0.412
	2.999	2.969	2.879	2.738	2.555	2.344	2.117	1.889	1.671
	4.469	4.440	4.356	4.220	4.042	3.832	3.601	3.363	3.130
0.10	0.952	0.956	0.970	0.992	1.023	1.061	1.106	1.156	1.211
	0.630	0.633	0.643	0.660	0.683	0.711	0.745	0.782	0.822
	0.000	0.075	0.148	0.217	0.279	0.333	0.376	0.407	0.424
	2.996	2.967	2.878	2.738	2.557	2.347	2.122	1.895	1.677
	4.466	4.440	4.359	4.231	4.063	3.863	3.644	3.417	3.196
0.15	0.960	0.965	0.979	1.002	1.034	1.073	1.119	1.170	1.226
	0.618	0.622	0.632	0.650	0.675	0.705	0.740	0.779	0.821
	0.000	0.077	0.153	0.224	0.287	0.342	0.386	0.418	0.436
	2.992	2.963	2.875	2.737	2.557	2.349	2.126	1.900	1.682
	4.462	4.437	4.360	4.238	4.077	3.887	3.677	3.459	3.245
0.20	0.969	0.973	0.988	1.011	1.044	1.083	1.130	1.182	1.238
	0.607	0.610	0.622	0.641	0.666	0.697	0.734	0.774	0.817
	0.000	0.079	0.157	0.229	0.295	0.351	0.396	0.428	0.446
	2.987	2.958	2.871	2.734	2.557	2.350	2.129	1.904	1.687
	4.456	4.432	4.359	4.243	4.089	3.906	3.703	3.493	3.285
0.25	0.977	0.982	0.997	1.020	1.053	1.093	1.140	1.192	1.249
	0.595	0.599	0.611	0.631	0.657	0.690	0.728	0.769	0.814
	0.000	0.081	0.161	0.235	0.302	0.359	0.405	0.438	0.456
	2.980	2.951	2.866	2.731	2.555	2.351	2.131	1.907	1.692
	4.449	4.426	4.356	4.245	4.097	3.921	3.726	3.522	3.320
0.30	0.986	0.990	1.005	1.029	1.062	1.102	1.149	1.201	1.258
	0.585	0.589	0.601	0.621	0.649	0.682	0.721	0.764	0.809
	0.000	0.083	0.164	0.240	0.308	0.367	0.413	0.447	0.465
	2.972	2.944	2.859	2.726	2.552	2.350	2.132	1.911	1.696
	4.440	4.418	4.352	4.245	4.104	3.934	3.746	3.548	3.350
0.35	0.994	0.999	1.013	1.037	1.070	1.110	1.157	1.210	1.266
	0.574	0.578	0.591	0.612	0.640	0.675	0.715	0.759	0.804
	0.000	0.085	0.168	0.245	0.314	0.374	0.421	0.455	0.473
	2.963	2.935	2.852	2.720	2.549	2.349	2.133	1.913	1.699
	4.431	4.409	4.346	4.244	4.108	3.945	3.763	3.571	3.377
0.40	1.002	1.007	1.022	1.046	1.078	1.118	1.165	1.218	1.274
	0.564	0.568	0.581	0.603	0.632	0.667	0.708	0.753	0.800
	0.000	0.087	0.171	0.250	0.320	0.381	0.429	0.463	0.481
	2.953	2.925	2.843	2.713	2.545	2.347	2.134	1.915	1.702
	4.420	4.399	4.339	4.241	4.111	3.954	3.778	3.591	3.402
0.45	1.010	1.015	1.030	1.054	1.086	1.126	1.173	1.225	1.281
	0.553	0.558	0.572	0.594	0.624	0.660	0.702	0.747	0.795
	0.000	0.088	0.174	0.254	0.326	0.387	0.436	0.470	0.489
	2.941	2.914	2.833	2.706	2.539	2.345	2.133	1.917	1.705
	4.407	4.388	4.330	4.237	4.112	3.962	3.791	3.609	3.424
0.50	1.018	1.023	1.038	1.062	1.094	1.134	1.180	1.232	1.287
	0.544	0.548	0.562	0.585	0.615	0.653	0.695	0.742	0.790
	0.000	0.090	0.177	0.258	0.331	0.393	0.442	0.477	0.495
	2.929	2.902	2.823	2.697	2.533	2.341	2.132	1.918	1.708
	4.394	4.375	4.321	4.232	4.112	3.967	3.803	3.626	3.444

$$M_{\infty} = 4, \beta_K = 35^\circ, \alpha = 15^\circ$$

η	θ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.55	1.027 0.534 0.000 2.915 4.380	1.031 0.539 0.091 2.889 4.362	1.046 0.553 0.180 2.811 4.310	1.069 0.576 0.263 2.688 4.225	1.101 0.607 0.336 2.526 4.111	1.141 0.646 0.399 2.337 3.972	1.187 0.689 0.449 2.131 3.813	1.238 0.736 0.483 1.918 3.641	1.293 0.785 0.502 1.710 3.462
0.60	1.035 0.524 0.000 2.901 4.364	1.040 0.529 0.093 2.875 4.347	1.054 0.544 0.183 2.799 4.298	1.077 0.568 0.267 2.677 4.217	1.109 0.600 0.341 2.519 4.108	1.148 0.639 0.405 2.332 3.975	1.193 0.683 0.455 2.129 3.821	1.244 0.731 0.490 1.918 3.654	1.299 0.780 0.508 1.711 3.479
0.65	1.043 0.515 0.000 2.885 4.347	1.048 0.520 0.094 2.860 4.332	1.062 0.535 0.185 2.785 4.285	1.085 0.559 0.270 2.666 4.208	1.116 0.592 0.346 2.510 4.104	1.155 0.632 0.410 2.327 3.976	1.200 0.677 0.461 2.126 3.829	1.250 0.725 0.495 1.918 3.666	1.304 0.776 0.513 1.713 3.494
0.70	1.051 0.506 0.000 2.869 4.330	1.056 0.511 0.095 2.844 4.315	1.070 0.526 0.188 2.771 4.271	1.092 0.551 0.274 2.654 4.198	1.123 0.584 0.351 2.501 4.099	1.161 0.625 0.416 2.321 3.977	1.206 0.671 0.466 2.123 3.835	1.256 0.720 0.501 1.917 3.677	1.309 0.771 0.519 1.714 3.508
0.75	1.059 0.496 0.000 2.852 4.311	1.064 0.502 0.097 2.827 4.297	1.077 0.517 0.191 2.756 4.255	1.100 0.543 0.278 2.642 4.187	1.130 0.577 0.355 2.492 4.093	1.168 0.618 0.421 2.314 3.976	1.212 0.665 0.472 2.119 3.839	1.261 0.715 0.506 1.916 3.686	1.314 0.766 0.524 1.714 3.521
0.80	1.067 0.487 0.000 2.834 4.292	1.072 0.493 0.098 2.810 4.279	1.085 0.509 0.193 2.740 4.239	1.107 0.534 0.281 2.628 4.175	1.137 0.569 0.360 2.481 4.086	1.175 0.611 0.426 2.307 3.974	1.218 0.659 0.477 2.115 3.843	1.266 0.710 0.512 1.915 3.694	1.319 0.762 0.528 1.715 3.532
0.85	1.075 0.478 0.000 2.815 4.271	1.080 0.484 0.099 2.792 4.259	1.093 0.500 0.195 2.723 4.222	1.115 0.526 0.285 2.614 4.161	1.144 0.562 0.364 2.470 4.077	1.181 0.604 0.430 2.299 3.972	1.224 0.653 0.482 2.110 3.846	1.272 0.705 0.516 1.913 3.702	1.323 0.757 0.533 1.715 3.543
0.90	1.084 0.470 0.000 2.795 4.250	1.088 0.475 0.100 2.772 4.238	1.101 0.492 0.198 2.706 4.204	1.122 0.519 0.288 2.599 4.147	1.151 0.554 0.368 2.458 4.068	1.187 0.598 0.435 2.291 3.968	1.229 0.647 0.487 2.105 3.847	1.277 0.700 0.521 1.910 3.708	1.328 0.753 0.537 1.715 3.552
0.95	1.092 0.461 0.000 2.774 4.227	1.096 0.467 0.102 2.752 4.217	1.109 0.483 0.200 2.687 4.185	1.130 0.511 0.291 2.583 4.132	1.158 0.547 0.372 2.445 4.058	1.194 0.591 0.440 2.282 3.963	1.235 0.641 0.491 2.099 3.848	1.281 0.695 0.526 1.908 3.713	1.332 0.749 0.541 1.714 3.561
1.00	1.100 0.452 0.000 2.753 4.204	1.104 0.458 0.103 2.731 4.194	1.117 0.475 0.202 2.668 4.165	1.137 0.503 0.295 2.567 4.116	1.165 0.540 0.376 2.432 4.046	1.200 0.585 0.444 2.272 3.957	1.240 0.636 0.496 2.093 3.847	1.286 0.690 0.530 1.905 3.717	1.336 0.745 0.545 1.713 3.569
F_x	0.959	0.959	0.960	0.962	0.965	0.968	0.972	0.975	0.978

$$M_{\infty} = 4, \beta_{\kappa} = 35^{\circ}, \alpha = 15^{\circ}$$

ξ	θ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.00	1.158 0.810 0.414 1.467 2.681	1.198 0.839 0.403 1.295 2.453	1.237 0.866 0.373 1.155 2.260	1.274 0.892 0.320 1.047 2.108	1.304 0.913 0.244 0.972 1.998	1.325 0.928 0.156 0.924 1.928	1.337 0.936 0.076 0.899 1.890	1.565 1.095 0.000 0.891 2.656	1.340 0.938 0.000 0.891 1.878
0.05	1.246 0.860 0.414 1.473 2.916	1.304 0.901 0.399 1.300 2.735	1.362 0.943 0.366 1.159 2.598	1.421 0.985 0.314 1.050 2.521	1.478 1.025 0.247 0.973 2.515	1.527 1.058 0.172 0.925 2.569	1.559 1.080 0.090 0.899 2.630	1.570 1.088 0.000 0.891 2.655	
0.10	1.269 0.864 0.426 1.478 2.992	1.328 0.907 0.412 1.305 2.818	1.387 0.950 0.380 1.162 2.687	1.445 0.991 0.331 1.052 2.609	1.497 1.027 0.267 0.974 2.589	1.539 1.056 0.189 0.925 2.612	1.566 1.075 0.099 0.898 2.642	1.575 1.081 0.000 0.890 2.653	
0.15	1.285 0.864 0.438 1.484 3.047	1.344 0.908 0.424 1.310 2.877	1.403 0.951 0.393 1.166 2.746	1.459 0.991 0.345 1.055 2.664	1.509 1.025 0.280 0.975 2.631	1.547 1.052 0.200 0.925 2.634	1.571 1.069 0.105 0.898 2.646	1.580 1.075 0.000 0.889 2.651	
0.20	1.297 0.862 0.449 1.488 3.092	1.357 0.906 0.435 1.314 2.924	1.415 0.949 0.404 1.169 2.791	1.470 0.988 0.356 1.057 2.703	1.517 1.022 0.291 0.976 2.659	1.554 1.047 0.207 0.924 2.647	1.576 1.064 0.109 0.896 2.647	1.584 1.069 0.000 0.887 2.648	
0.25	1.308 0.859 0.459 1.493 3.130	1.367 0.923 0.445 1.318 2.962	1.425 0.946 0.414 1.173 2.828	1.478 0.984 0.365 1.059 2.733	1.525 1.017 0.299 0.977 2.679	1.560 1.042 0.213 0.924 2.655	1.581 1.058 0.111 0.895 2.647	1.588 1.064 0.000 0.885 2.644	
0.30	1.317 0.855 0.468 1.497 3.163	1.376 0.900 0.454 1.322 2.996	1.433 0.942 0.422 1.175 2.858	1.486 0.980 0.373 1.060 2.757	1.531 1.013 0.305 0.977 2.694	1.565 1.037 0.217 0.923 2.660	1.585 1.053 0.113 0.893 2.645	1.592 1.059 0.000 0.883 2.639	
0.35	1.325 0.851 0.476 1.501 3.192	1.384 0.896 0.462 1.326 3.025	1.440 0.938 0.430 1.178 2.884	1.492 0.976 0.379 1.062 2.777	1.536 1.008 0.310 0.977 2.705	1.569 1.033 0.220 0.921 2.663	1.589 1.048 0.115 0.891 2.642	1.596 1.054 0.000 0.881 2.634	
0.40	1.332 0.847 0.484 1.505 3.218	1.390 0.892 0.469 1.329 3.051	1.447 0.934 0.436 1.180 2.907	1.498 0.972 0.385 1.063 2.794	1.541 1.003 0.314 0.976 2.714	1.574 1.028 0.223 0.920 2.665	1.593 1.044 0.116 0.888 2.638	1.599 1.049 0.000 0.878 2.628	
0.45	1.338 0.842 0.491 1.508 3.242	1.396 0.888 0.475 1.332 3.074	1.452 0.930 0.442 1.183 2.927	1.503 0.968 0.389 1.063 2.808	1.546 0.999 0.317 0.976 2.721	1.578 1.023 0.225 0.918 2.665	1.597 1.039 0.117 0.886 2.633	1.603 1.045 0.000 0.875 2.622	
0.50	1.344 0.838 0.497 1.511 3.264	1.402 0.884 0.481 1.335 3.095	1.458 0.926 0.447 1.185 2.944	1.508 0.963 0.393 1.064 2.820	1.550 0.995 0.320 0.975 2.726	1.582 1.019 0.226 0.916 2.664	1.600 1.035 0.117 0.883 2.628	1.607 1.040 0.000 0.872 2.615	

$$M_{\infty} = 4, \beta_K = 35^\circ, \alpha = 15^\circ$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.55	1.350 0.834 0.503 1.513 3.284	1.407 0.880 0.486 1.337 3.114	1.462 0.922 0.451 1.186 2.960	1.512 0.959 0.397 1.065 2.830	1.554 0.990 0.322 0.974 2.730	1.586 1.015 0.228 0.914 2.662	1.604 1.030 0.118 0.880 2.622	1.610 1.036 0.000 0.869 2.608	
0.60	1.355 0.829 0.508 1.516 3.302	1.412 0.876 0.491 1.340 3.131	1.467 0.918 0.455 1.188 2.974	1.517 0.955 0.399 1.065 2.839	1.558 0.986 0.324 0.973 2.733	1.589 1.010 0.228 0.911 2.659	1.607 1.026 0.118 0.877 2.615	1.614 1.032 0.000 0.865 2.601	
0.65	1.360 0.825 0.513 1.518 3.318	1.417 0.872 0.495 1.342 3.147	1.471 0.914 0.458 1.189 2.987	1.521 0.951 0.402 1.065 2.847	1.562 0.982 0.325 0.971 2.735	1.593 1.006 0.229 0.908 2.655	1.611 1.022 0.118 0.873 2.608	1.617 1.027 0.000 0.861 2.592	
0.70	1.365 0.821 0.518 1.520 3.334	1.421 0.868 0.499 1.344 3.161	1.475 0.911 0.461 1.191 2.998	1.524 0.948 0.404 1.065 2.853	1.566 0.978 0.326 0.970 2.735	1.597 1.002 0.230 0.905 2.651	1.615 1.018 0.118 0.869 2.601	1.621 1.023 0.000 0.857 2.584	
0.75	1.369 0.817 0.523 1.522 3.348	1.425 0.865 0.503 1.346 3.175	1.479 0.907 0.464 1.192 3.009	1.528 0.944 0.405 1.065 2.859	1.569 0.975 0.327 0.968 2.736	1.600 0.998 0.230 0.902 2.646	1.618 1.014 0.118 0.865 2.593	1.624 1.019 0.000 0.853 2.575	
0.80	1.373 0.813 0.527 1.523 3.361	1.429 0.861 0.506 1.347 3.187	1.482 0.904 0.466 1.193 3.018	1.531 0.941 0.407 1.064 2.864	1.573 0.971 0.328 0.966 2.735	1.604 0.994 0.230 0.899 2.640	1.622 1.010 0.118 0.861 2.584	1.628 1.015 0.000 0.849 2.565	
0.85	1.377 0.809 0.531 1.525 3.373	1.432 0.857 0.509 1.349 3.199	1.486 0.900 0.468 1.194 3.027	1.535 0.937 0.408 1.064 2.868	1.576 0.967 0.328 0.964 2.733	1.607 0.991 0.230 0.896 2.634	1.626 1.006 0.118 0.857 2.575	1.632 1.011 0.000 0.844 2.555	
0.90	1.381 0.805 0.534 1.526 3.384	1.436 0.854 0.512 1.350 3.209	1.489 0.897 0.470 1.194 3.035	1.538 0.934 0.409 1.063 2.871	1.580 0.964 0.328 0.962 2.732	1.611 0.987 0.230 0.892 2.627	1.629 1.002 0.118 0.852 2.565	1.635 1.007 0.000 0.839 2.544	
0.95	1.385 0.802 0.538 1.526 3.395	1.439 0.851 0.514 1.351 3.219	1.492 0.894 0.472 1.195 3.042	1.541 0.931 0.409 1.063 2.874	1.583 0.960 0.328 0.960 2.729	1.614 0.983 0.230 0.888 2.620	1.633 0.998 0.118 0.847 2.554	1.639 1.003 0.000 0.833 2.532	
1.00	1.388 0.798 0.541 1.527 3.404	1.442 0.848 0.517 1.353 3.228	1.495 0.891 0.473 1.196 3.049	1.544 0.928 0.410 1.062 2.876	1.586 0.957 0.328 0.957 2.726	1.618 0.979 0.229 0.884 2.612	1.637 0.994 0.118 0.842 2.543	1.643 0.999 0.000 0.828 2.520	
F_x	0.979	0.979	0.976	0.970	0.962	0.954	0.948	0.945	

$$M_{\infty} = 4, \beta_K = 40^\circ, \alpha = 2^\circ 30'$$

ξ	θ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.00	1.048	1.048	1.050	1.052	1.055	1.059	1.064	1.069	1.074
	0.879	0.879	0.881	0.883	0.886	0.889	0.893	0.897	0.901
	0.000	0.011	0.021	0.031	0.040	0.047	0.052	0.056	0.057
	2.470	2.466	2.454	2.434	2.409	2.378	2.343	2.306	2.268
	4.188	4.183	4.169	4.146	4.114	4.077	4.034	3.988	3.941
0.05	1.056	1.057	1.060	1.065	1.072	1.080	1.089	1.100	1.111
	0.869	0.870	0.873	0.877	0.883	0.890	0.898	0.906	0.916
	0.000	0.012	0.024	0.036	0.046	0.054	0.060	0.064	0.065
	2.469	2.465	2.453	2.434	2.408	2.377	2.343	2.305	2.267
	4.187	4.184	4.176	4.162	4.144	4.122	4.098	4.072	4.047
0.10	1.064	1.065	1.068	1.073	1.080	1.088	1.098	1.108	1.119
	0.860	0.861	0.863	0.868	0.873	0.881	0.889	0.898	0.907
	0.000	0.013	0.026	0.038	0.049	0.058	0.065	0.069	0.070
	2.467	2.463	2.451	2.432	2.406	2.376	2.341	2.304	2.266
	4.185	4.182	4.174	4.160	4.143	4.121	4.098	4.073	4.048
0.15	1.072	1.073	1.076	1.081	1.088	1.096	1.106	1.116	1.127
	0.851	0.852	0.854	0.859	0.865	0.872	0.880	0.889	0.899
	0.000	0.014	0.028	0.040	0.052	0.061	0.068	0.073	0.074
	2.464	2.460	2.448	2.429	2.403	2.373	2.338	2.301	2.263
	4.181	4.178	4.170	4.157	4.140	4.119	4.096	4.071	4.047
0.20	1.080	1.081	1.084	1.089	1.096	1.104	1.113	1.124	1.135
	0.842	0.843	0.845	0.850	0.856	0.863	0.872	0.881	0.891
	0.000	0.014	0.029	0.042	0.054	0.064	0.071	0.076	0.077
	2.460	2.456	2.444	2.425	2.399	2.369	2.334	2.297	2.259
	4.176	4.173	4.165	4.153	4.136	4.115	4.092	4.068	4.043
0.25	1.088	1.089	1.092	1.097	1.104	1.112	1.121	1.131	1.142
	0.833	0.834	0.837	0.841	0.848	0.855	0.864	0.873	0.883
	0.000	0.015	0.030	0.043	0.056	0.066	0.073	0.078	0.080
	2.454	2.450	2.439	2.420	2.395	2.364	2.330	2.293	2.255
	4.170	4.167	4.159	4.147	4.130	4.110	4.087	4.063	4.039
0.30	1.095	1.097	1.100	1.104	1.111	1.119	1.129	1.139	1.149
	0.825	0.826	0.829	0.833	0.839	0.847	0.856	0.865	0.875
	0.000	0.015	0.031	0.045	0.057	0.067	0.075	0.080	0.082
	2.448	2.444	2.433	2.414	2.389	2.358	2.324	2.287	2.250
	4.162	4.160	4.152	4.140	4.123	4.103	4.081	4.057	4.033
0.35	1.103	1.104	1.107	1.112	1.119	1.127	1.136	1.146	1.157
	0.817	0.818	0.821	0.825	0.832	0.839	0.848	0.857	0.867
	0.000	0.016	0.031	0.046	0.058	0.069	0.077	0.082	0.084
	2.441	2.437	2.426	2.407	2.382	2.352	2.318	2.281	2.243
	4.154	4.151	4.144	4.132	4.115	4.096	4.074	4.050	4.026
0.40	1.110	1.111	1.114	1.119	1.126	1.134	1.143	1.153	1.164
	0.809	0.810	0.813	0.818	0.824	0.832	0.840	0.850	0.860
	0.000	0.016	0.032	0.047	0.060	0.071	0.079	0.084	0.086
	2.433	2.429	2.418	2.399	2.374	2.344	2.310	2.274	2.237
	4.144	4.142	4.134	4.122	4.106	4.087	4.065	4.042	4.018
0.45	1.118	1.119	1.122	1.127	1.133	1.141	1.150	1.160	1.171
	0.802	0.803	0.805	0.810	0.817	0.824	0.833	0.843	0.853
	0.000	0.016	0.033	0.048	0.061	0.072	0.080	0.085	0.087
	2.425	2.421	2.409	2.391	2.366	2.336	2.303	2.266	2.229
	4.134	4.131	4.124	4.112	4.096	4.077	4.056	4.032	4.009
0.50	1.125	1.126	1.129	1.134	1.140	1.148	1.157	1.167	1.177
	0.794	0.795	0.798	0.803	0.809	0.817	0.826	0.836	0.846
	0.000	0.017	0.033	0.048	0.062	0.073	0.081	0.087	0.089
	2.415	2.412	2.400	2.382	2.357	2.328	2.294	2.258	2.221
	4.122	4.120	4.113	4.101	4.086	4.067	4.045	4.022	3.999

$$M_{\infty} = 4, \beta_{\kappa} = 40^{\circ}, \alpha = 2^{\circ}30'$$

δ	θ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.55	1.132 0.787 0.000 2.405 4.110	1.133 0.788 0.017 2.402 4.108	1.136 0.791 0.034 2.390 4.101	1.141 0.796 0.049 2.372 4.089	1.147 0.802 0.063 2.348 4.074	1.155 0.810 0.074 2.318 4.055	1.164 0.819 0.083 2.285 4.034	1.174 0.829 0.088 2.249 4.011	1.184 0.839 0.090 2.212 3.988
0.60	1.139 0.780 0.000 2.395 4.097	1.140 0.781 0.017 2.391 4.095	1.143 0.784 0.034 2.380 4.088	1.148 0.789 0.050 2.362 4.077	1.154 0.795 0.064 2.338 4.062	1.162 0.803 0.075 2.308 4.043	1.171 0.812 0.084 2.275 4.022	1.181 0.822 0.089 2.239 4.000	1.191 0.833 0.091 2.203 3.976
0.65	1.147 0.773 0.000 2.383 4.083	1.147 0.774 0.017 2.380 4.081	1.150 0.777 0.035 2.369 4.074	1.155 0.782 0.050 2.351 4.063	1.161 0.789 0.064 2.327 4.048	1.169 0.797 0.076 2.298 4.030	1.178 0.806 0.085 2.265 4.010	1.188 0.816 0.090 2.229 3.987	1.198 0.826 0.092 2.193 3.964
0.70	1.154 0.766 0.000 2.372 4.069	1.155 0.767 0.018 2.368 4.067	1.157 0.770 0.035 2.357 4.060	1.162 0.775 0.051 2.339 4.049	1.168 0.782 0.065 2.315 4.034	1.176 0.790 0.077 2.286 4.016	1.185 0.799 0.086 2.254 3.996	1.194 0.809 0.091 2.219 3.974	1.204 0.820 0.093 2.182 3.951
0.75	1.161 0.760 0.000 2.359 4.054	1.162 0.761 0.018 2.355 4.051	1.164 0.764 0.035 2.345 4.045	1.169 0.769 0.052 2.327 4.034	1.175 0.775 0.066 2.303 4.020	1.183 0.784 0.078 2.275 4.002	1.191 0.793 0.087 2.242 3.982	1.201 0.803 0.092 2.207 3.960	1.211 0.814 0.094 2.171 3.937
0.80	1.168 0.753 0.000 2.346 4.038	1.169 0.754 0.018 2.342 4.035	1.171 0.757 0.036 2.332 4.029	1.176 0.762 0.052 2.314 4.018	1.182 0.769 0.066 2.291 4.004	1.190 0.777 0.078 2.262 3.987	1.198 0.787 0.087 2.230 3.967	1.208 0.797 0.093 2.196 3.945	1.217 0.807 0.095 2.160 3.922
0.85	1.175 0.747 0.000 2.333 4.021	1.175 0.748 0.018 2.329 4.019	1.178 0.751 0.036 2.318 4.012	1.183 0.756 0.052 2.301 4.002	1.189 0.763 0.067 2.278 3.988	1.196 0.771 0.079 2.250 3.971	1.205 0.781 0.088 2.218 3.951	1.214 0.791 0.094 2.183 3.930	1.224 0.801 0.096 2.148 3.907
0.90	1.181 0.740 0.000 2.318 4.003	1.182 0.742 0.018 2.315 4.001	1.185 0.745 0.036 2.304 3.995	1.190 0.750 0.053 2.287 3.985	1.196 0.757 0.068 2.264 3.971	1.203 0.765 0.080 2.236 3.954	1.212 0.775 0.089 2.205 3.935	1.221 0.785 0.095 2.171 3.913	1.230 0.796 0.097 2.135 3.891
0.95	1.188 0.734 0.000 2.304 3.985	1.189 0.735 0.018 2.300 3.983	1.192 0.739 0.037 2.290 3.977	1.197 0.744 0.053 2.273 3.967	1.202 0.751 0.068 2.250 3.954	1.210 0.759 0.080 2.223 3.937	1.218 0.769 0.089 2.191 3.918	1.227 0.779 0.095 2.157 3.897	1.237 0.790 0.097 2.122 3.874
1.00	1.195 0.728 0.000 2.289 3.967	1.196 0.729 0.019 2.285 3.965	1.199 0.732 0.037 2.275 3.959	1.203 0.738 0.054 2.258 3.949	1.209 0.745 0.069 2.236 3.935	1.217 0.753 0.081 2.208 3.919	1.225 0.763 0.090 2.177 3.900	1.234 0.773 0.096 2.144 3.879	1.243 0.784 0.098 2.109 3.857
F_x	1.144	1.143	1.143	1.143	1.142	1.141	1.140	1.138	1.137

$$M_{\infty} = 4, \beta_{\kappa} = 40^{\circ}, \alpha = 2^{\circ}30'$$

ξ	θ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.00	1.080	1.085	1.089	1.093	1.097	1.099	1.101	1.162	1.101
	0.906	0.910	0.914	0.917	0.920	0.922	0.924	0.975	0.924
	0.056	0.053	0.047	0.040	0.031	0.021	0.011	0.000	0.000
	2.230	2.195	2.162	2.135	2.112	2.096	2.085	2.082	2.082
0.05	3.894	3.850	3.809	3.774	3.746	3.725	3.712	3.940	3.707
	1.122	1.133	1.143	1.152	1.159	1.165	1.168	1.169	
	0.925	0.934	0.943	0.951	0.957	0.962	0.965	0.966	
	0.064	0.060	0.054	0.046	0.036	0.025	0.013	0.000	
0.10	2.230	2.194	2.162	2.134	2.112	2.095	2.085	2.081	
	4.023	4.002	3.983	3.967	3.955	3.946	3.941	3.940	
	1.130	1.141	1.151	1.159	1.167	1.172	1.176	1.177	
	0.917	0.926	0.935	0.942	0.948	0.953	0.956	0.957	
0.15	0.069	0.065	0.059	0.050	0.040	0.027	0.014	0.000	
	2.228	2.193	2.160	2.133	2.110	2.093	2.083	2.080	
	4.024	4.002	3.983	3.967	3.954	3.945	3.939	3.937	
	1.138	1.148	1.158	1.167	1.174	1.179	1.183	1.184	
0.20	0.908	0.918	0.926	0.934	0.940	0.945	0.948	0.949	
	0.073	0.069	0.062	0.053	0.042	0.029	0.014	0.000	
	2.226	2.190	2.158	2.130	2.107	2.091	2.081	2.077	
	4.023	4.001	3.981	3.964	3.951	3.942	3.936	3.934	
0.25	1.145	1.156	1.166	1.174	1.181	1.187	1.190	1.191	
	0.900	0.910	0.918	0.926	0.932	0.937	0.940	0.941	
	0.076	0.072	0.065	0.055	0.044	0.030	0.015	0.000	
	2.222	2.187	2.154	2.127	2.104	2.087	2.077	2.074	
0.30	4.019	3.997	3.977	3.960	3.947	3.937	3.931	3.929	
	1.153	1.163	1.173	1.181	1.188	1.194	1.197	1.198	
	0.892	0.902	0.910	0.918	0.924	0.929	0.932	0.933	
	0.079	0.074	0.067	0.057	0.045	0.031	0.016	0.000	
0.35	2.218	2.182	2.150	2.122	2.100	2.083	2.073	2.069	
	4.015	3.992	3.972	3.955	3.941	3.931	3.925	3.923	
	1.160	1.170	1.180	1.188	1.195	1.200	1.204	1.205	
	0.885	0.894	0.903	0.911	0.917	0.922	0.925	0.926	
0.40	0.081	0.077	0.069	0.059	0.046	0.032	0.016	0.000	
	2.212	2.177	2.145	2.117	2.095	2.078	2.068	2.064	
	4.009	3.987	3.966	3.949	3.935	3.925	3.918	3.916	
	1.167	1.177	1.187	1.195	1.202	1.207	1.210	1.211	
0.45	0.877	0.887	0.896	0.903	0.910	0.914	0.917	0.918	
	0.083	0.078	0.071	0.060	0.047	0.033	0.016	0.000	
	2.206	2.171	2.139	2.111	2.089	2.072	2.062	2.059	
	4.002	3.979	3.959	3.942	3.927	3.917	3.911	3.909	
0.50	1.174	1.184	1.194	1.202	1.209	1.214	1.217	1.218	
	0.870	0.880	0.888	0.896	0.903	0.908	0.910	0.911	
	0.085	0.080	0.072	0.062	0.048	0.033	0.017	0.000	
	2.200	2.164	2.133	2.105	2.082	2.066	2.056	2.052	
0.55	3.994	3.971	3.951	3.933	3.919	3.909	3.902	3.900	
	1.181	1.191	1.200	1.209	1.215	1.220	1.223	1.225	
	0.863	0.873	0.882	0.889	0.896	0.901	0.904	0.905	
	0.086	0.081	0.073	0.063	0.049	0.034	0.017	0.000	
0.60	2.192	2.157	2.125	2.098	2.075	2.059	2.049	2.045	
	3.985	3.962	3.942	3.924	3.910	3.899	3.893	3.890	
	1.188	1.198	1.207	1.215	1.222	1.227	1.230	1.231	
	0.856	0.866	0.875	0.883	0.889	0.894	0.897	0.898	
0.65	0.087	0.083	0.075	0.064	0.050	0.034	0.017	0.000	
	2.184	2.149	2.118	2.090	2.068	2.051	2.041	2.037	
	3.975	3.953	3.932	3.914	3.900	3.889	3.882	3.880	

$$M_{\infty} = 4, \beta_K = 40^\circ, \alpha = 2^\circ 30'$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.55	1.195 0.849 0.089 2.176 3.964	1.204 0.859 0.084 2.141 3.942	1.214 0.868 0.076 2.109 3.921	1.222 0.876 0.064 2.082 3.903	1.228 0.883 0.051 2.059 3.889	1.233 0.888 0.035 2.043 3.878	1.236 0.891 0.018 2.033 3.871	1.237 0.892 0.000 2.029 3.869	
0.60	1.201 0.843 0.090 2.106 3.953	1.211 0.853 0.085 2.132 3.930	1.220 0.862 0.077 2.100 3.910	1.228 0.870 0.065 2.073 3.892	1.235 0.877 0.051 2.051 3.877	1.240 0.881 0.035 2.034 3.866	1.243 0.884 0.018 2.024 3.859	1.244 0.885 0.000 2.021 3.857	
0.65	1.208 0.836 0.091 2.157 3.940	1.217 0.846 0.086 2.122 3.918	1.226 0.856 0.077 2.091 3.897	1.234 0.864 0.066 2.064 3.879	1.241 0.870 0.052 2.041 3.865	1.246 0.875 0.036 2.025 3.854	1.249 0.878 0.018 2.015 3.847	1.250 0.879 0.000 2.012 3.845	
0.70	1.214 0.830 0.092 2.146 3.927	1.224 0.840 0.087 2.112 3.905	1.233 0.850 0.078 2.081 3.885	1.241 0.858 0.067 2.054 3.866	1.247 0.864 0.052 2.032 3.852	1.252 0.869 0.036 2.015 3.841	1.255 0.872 0.018 2.005 3.834	1.256 0.873 0.000 2.002 3.831	
0.75	1.221 0.824 0.093 2.136 3.914	1.230 0.834 0.088 2.102 3.891	1.239 0.844 0.079 2.071 3.871	1.247 0.852 0.067 2.043 3.853	1.253 0.858 0.053 2.021 3.838	1.258 0.863 0.036 2.005 3.827	1.261 0.866 0.018 1.995 3.820	1.262 0.868 0.000 1.992 3.818	
0.80	1.227 0.818 0.094 2.124 3.899	1.237 0.828 0.088 2.091 3.877	1.246 0.838 0.080 2.060 3.856	1.253 0.846 0.068 2.033 3.838	1.260 0.853 0.053 2.011 3.823	1.264 0.858 0.037 1.994 3.812	1.267 0.861 0.018 1.985 3.805	1.268 0.862 0.000 1.981 3.803	
0.85	1.234 0.812 0.094 2.113 3.884	1.243 0.822 0.089 2.079 3.862	1.252 0.832 0.080 2.048 3.841	1.259 0.840 0.068 2.021 3.823	1.266 0.847 0.054 2.000 3.808	1.271 0.852 0.037 1.983 3.797	1.273 0.855 0.019 1.973 3.790	1.274 0.856 0.000 1.970 3.788	
0.90	1.240 0.806 0.095 2.100 3.868	1.249 0.817 0.090 2.067 3.846	1.258 0.826 0.081 2.036 3.826	1.266 0.834 0.069 2.010 3.808	1.272 0.841 0.054 1.988 3.793	1.277 0.846 0.037 1.972 3.781	1.280 0.849 0.019 1.962 3.775	1.281 0.850 0.000 1.959 3.772	
0.95	1.246 0.801 0.096 2.088 3.852	1.256 0.811 0.090 2.054 3.830	1.264 0.820 0.081 2.024 3.809	1.272 0.829 0.069 1.998 3.791	1.278 0.836 0.054 1.976 3.776	1.283 0.841 0.037 1.960 3.765	1.286 0.844 0.019 1.950 3.758	1.287 0.845 0.000 1.947 3.756	
1.00	1.253 0.795 0.096 2.074 3.835	1.262 0.805 0.091 2.041 3.813	1.271 0.815 0.082 2.011 3.792	1.278 0.823 0.070 1.985 3.774	1.284 0.830 0.055 1.963 3.759	1.289 0.835 0.038 1.947 3.748	1.292 0.838 0.019 1.938 3.741	1.293 0.839 0.000 1.934 3.739	
F_x	1.135	1.134	1.132	1.131	1.130	1.129	1.129	1.128	

$$M_{\infty} = 4, \beta_{\infty} = 40^{\circ}, \alpha = 5^{\circ}$$

ξ	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.00	0.986	0.987	0.990	0.995	1.002	1.010	1.020	1.030	1.041
	0.827	0.828	0.830	0.835	0.840	0.847	0.856	0.864	0.874
	0.000	0.022	0.044	0.064	0.082	0.097	0.108	0.115	0.117
	2.665	2.656	2.631	2.590	2.536	2.471	2.400	2.324	2.247
	4.296	4.286	4.257	4.209	4.146	4.071	3.986	3.895	3.803
0.05	0.994	0.996	1.002	1.011	1.024	1.040	1.058	1.078	1.100
	0.817	0.818	0.823	0.831	0.842	0.855	0.871	0.888	0.907
	0.000	0.025	0.049	0.072	0.091	0.108	0.120	0.128	0.131
	2.664	2.656	2.630	2.590	2.536	2.471	2.399	2.324	2.247
	4.295	4.288	4.268	4.236	4.194	4.145	4.091	4.035	3.982
0.10	1.003	1.005	1.011	1.020	1.033	1.049	1.068	1.088	1.110
	0.807	0.808	0.814	0.822	0.833	0.847	0.863	0.881	0.899
	0.000	0.026	0.052	0.076	0.098	0.115	0.129	0.138	0.141
	2.662	2.654	2.628	2.588	2.534	2.470	2.398	2.322	2.246
	4.292	4.286	4.267	4.237	4.197	4.149	4.098	4.044	3.992
0.15	1.011	1.013	1.019	1.029	1.042	1.058	1.076	1.097	1.118
	0.797	0.799	0.804	0.813	0.824	0.838	0.855	0.873	0.892
	0.000	0.028	0.055	0.080	0.102	0.121	0.135	0.145	0.149
	2.659	2.650	2.625	2.585	2.531	2.467	2.396	2.320	2.244
	4.289	4.282	4.264	4.235	4.196	4.151	4.100	4.048	3.997
0.20	1.020	1.022	1.028	1.037	1.050	1.066	1.085	1.105	1.127
	0.788	0.790	0.795	0.804	0.816	0.830	0.847	0.865	0.884
	0.000	0.029	0.057	0.083	0.106	0.126	0.141	0.151	0.155
	2.654	2.646	2.621	2.581	2.527	2.464	2.393	2.317	2.241
	4.283	4.277	4.260	4.231	4.194	4.150	4.100	4.049	3.999
0.25	1.028	1.030	1.036	1.045	1.058	1.074	1.093	1.113	1.135
	0.779	0.781	0.786	0.795	0.807	0.822	0.839	0.857	0.876
	0.000	0.030	0.059	0.086	0.110	0.130	0.145	0.155	0.160
	2.648	2.640	2.615	2.575	2.521	2.459	2.388	2.313	2.237
	4.277	4.271	4.254	4.226	4.190	4.147	4.099	4.048	3.998
0.30	1.036	1.038	1.044	1.053	1.066	1.082	1.101	1.121	1.142
	0.770	0.772	0.778	0.787	0.799	0.814	0.831	0.849	0.869
	0.000	0.031	0.060	0.088	0.113	0.133	0.149	0.160	0.164
	2.642	2.633	2.609	2.569	2.517	2.454	2.383	2.308	2.233
	4.269	4.263	4.247	4.220	4.185	4.142	4.095	4.046	3.996
0.35	1.044	1.046	1.052	1.061	1.074	1.090	1.108	1.129	1.150
	0.762	0.764	0.769	0.778	0.791	0.806	0.823	0.842	0.862
	0.000	0.031	0.062	0.090	0.116	0.137	0.153	0.164	0.168
	2.634	2.626	2.601	2.562	2.510	2.447	2.377	2.303	2.227
	4.260	4.254	4.238	4.212	4.178	4.137	4.090	4.041	3.992
0.40	1.052	1.054	1.060	1.069	1.082	1.098	1.116	1.136	1.157
	0.753	0.755	0.761	0.770	0.783	0.798	0.816	0.835	0.855
	0.000	0.032	0.063	0.092	0.118	0.140	0.156	0.167	0.172
	2.625	2.617	2.593	2.554	2.502	2.440	2.370	2.296	2.221
	4.250	4.245	4.229	4.204	4.170	4.130	4.084	4.036	3.987
0.45	1.060	1.062	1.067	1.077	1.090	1.105	1.123	1.143	1.164
	0.745	0.747	0.753	0.763	0.775	0.791	0.808	0.828	0.848
	0.000	0.033	0.064	0.094	0.120	0.142	0.159	0.170	0.175
	2.616	2.608	2.584	2.545	2.494	2.432	2.363	2.289	2.214
	4.239	4.234	4.219	4.194	4.161	4.122	4.077	4.029	3.981
0.50	1.067	1.069	1.075	1.084	1.097	1.113	1.131	1.150	1.171
	0.738	0.740	0.745	0.755	0.768	0.783	0.801	0.821	0.841
	0.000	0.033	0.065	0.096	0.122	0.144	0.162	0.173	0.177
	2.606	2.598	2.574	2.536	2.485	2.423	2.355	2.282	2.207
	4.227	4.222	4.207	4.183	4.151	4.112	4.069	4.022	3.974

$$M_{\infty} = 4, \beta_{\kappa} = 40^{\circ}, \alpha = 5^{\circ}$$

ξ	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.55	1.075	1.077	1.083	1.092	1.105	1.120	1.138	1.157	1.178
	0.730	0.732	0.738	0.748	0.760	0.776	0.794	0.814	0.834
	0.000	0.034	0.066	0.097	0.124	0.147	0.164	0.175	0.180
	2.595	2.587	2.563	2.525	2.475	2.414	2.346	2.273	2.199
0.60	4.214	4.210	4.195	4.172	4.140	4.102	4.059	4.013	3.965
	1.083	1.084	1.090	1.099	1.112	1.127	1.145	1.164	1.184
	0.723	0.725	0.731	0.740	0.753	0.769	0.788	0.807	0.828
	0.000	0.034	0.067	0.098	0.126	0.149	0.166	0.178	0.182
0.65	2.583	2.575	2.552	2.514	2.464	2.404	2.336	2.264	2.191
	4.201	4.196	4.182	4.159	4.129	4.091	4.049	4.003	3.956
	1.090	1.092	1.098	1.107	1.119	1.134	1.152	1.171	1.191
	0.715	0.717	0.723	0.733	0.746	0.763	0.781	0.801	0.822
0.70	0.000	0.035	0.068	0.100	0.127	0.151	0.168	0.180	0.185
	2.571	2.563	2.540	2.503	2.453	2.394	2.326	2.255	2.182
	4.186	4.182	4.168	4.146	4.116	4.080	4.038	3.993	3.946
	1.098	1.099	1.105	1.114	1.126	1.141	1.159	1.178	1.198
0.75	0.708	0.710	0.716	0.726	0.740	0.756	0.774	0.794	0.815
	0.000	0.035	0.069	0.101	0.129	0.152	0.170	0.182	0.187
	2.557	2.550	2.527	2.490	2.441	2.382	2.316	2.245	2.172
	4.171	4.167	4.153	4.132	4.103	4.067	4.026	3.982	3.935
0.80	1.105	1.107	1.112	1.121	1.134	1.148	1.166	1.184	1.204
	0.701	0.703	0.710	0.720	0.733	0.749	0.768	0.788	0.809
	0.000	0.035	0.070	0.102	0.130	0.154	0.172	0.184	0.188
	2.544	2.536	2.514	2.477	2.429	2.371	2.305	2.234	2.162
0.85	4.155	4.151	4.138	4.117	4.088	4.054	4.013	3.970	3.923
	1.112	1.114	1.120	1.129	1.141	1.155	1.172	1.191	1.211
	0.694	0.697	0.703	0.713	0.726	0.743	0.762	0.782	0.803
	0.000	0.036	0.071	0.103	0.132	0.156	0.174	0.185	0.190
0.90	2.529	2.522	2.500	2.464	2.416	2.358	2.293	2.223	2.151
	4.139	4.134	4.122	4.101	4.074	4.039	4.000	3.957	3.911
	1.120	1.122	1.127	1.136	1.148	1.162	1.179	1.198	1.217
	0.688	0.690	0.696	0.706	0.720	0.737	0.756	0.776	0.797
0.95	0.000	0.036	0.071	0.104	0.133	0.157	0.175	0.187	0.192
	2.515	2.507	2.485	2.450	2.403	2.345	2.281	2.211	2.140
	4.121	4.117	4.105	4.085	4.058	4.024	3.986	3.943	3.898
	1.127	1.129	1.134	1.143	1.155	1.169	1.186	1.204	1.224
1.00	0.681	0.683	0.690	0.700	0.714	0.730	0.750	0.770	0.792
	0.000	0.036	0.072	0.105	0.134	0.158	0.177	0.189	0.193
	2.499	2.492	2.470	2.435	2.388	2.332	2.268	2.199	2.129
	4.103	4.099	4.087	4.068	4.041	4.009	3.971	3.929	3.884
F_x	1.135	1.136	1.142	1.150	1.162	1.176	1.193	1.211	1.230
	0.675	0.677	0.683	0.693	0.707	0.724	0.744	0.764	0.786
	0.000	0.037	0.073	0.106	0.135	0.160	0.178	0.190	0.195
	2.483	2.476	2.454	2.420	2.374	2.318	2.255	2.187	2.117
F_x	4.084	4.080	4.069	4.050	4.024	3.992	3.955	3.914	3.869
	1.142	1.144	1.149	1.157	1.169	1.183	1.199	1.217	1.236
	0.668	0.670	0.677	0.687	0.701	0.718	0.738	0.759	0.780
	0.000	0.037	0.073	0.107	0.136	0.161	0.179	0.191	0.196
F_x	2.466	2.459	2.438	2.404	2.359	2.303	2.241	2.174	2.104
	4.064	4.061	4.050	4.031	4.006	3.975	3.939	3.898	3.854
	1.155	1.155	1.154	1.153	1.152	1.151	1.149	1.146	1.144

$$M_{\infty} = 4, \beta_{\kappa} = 40^{\circ}, \alpha = 5^{\circ}$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.00	1.053	1.063	1.074	1.082	1.090	1.095	1.098	1.213	1.099
	0.883	0.892	0.901	0.908	0.914	0.919	0.921	1.018	0.922
	0.115	0.108	0.097	0.083	0.065	0.044	0.022	0.000	0.000
	2.173	2.104	2.042	1.990	1.948	1.918	1.899	1.893	1.893
	3.713	3.628	3.552	3.487	3.434	3.396	3.373	3.799	3.365
0.05	1.122	1.144	1.164	1.183	1.199	1.211	1.218	1.221	
	0.925	0.944	0.962	0.978	0.991	1.001	1.007	1.009	
	0.129	0.122	0.110	0.094	0.074	0.051	0.026	0.000	
	2.173	2.104	2.042	1.990	1.948	1.917	1.899	1.893	
	3.934	3.892	3.858	3.833	3.816	3.805	3.800	3.798	
0.10	1.132	1.153	1.174	1.192	1.207	1.218	1.225	1.228	
	0.918	0.937	0.955	0.970	0.983	0.993	0.999	1.001	
	0.139	0.132	0.120	0.102	0.081	0.056	0.028	0.000	
	2.172	2.103	2.041	1.988	1.946	1.916	1.897	1.891	
	3.944	3.902	3.867	3.839	3.819	3.806	3.798	3.796	
0.15	1.140	1.162	1.182	1.200	1.214	1.226	1.232	1.235	
	0.911	0.930	0.947	0.963	0.976	0.985	0.991	0.993	
	0.147	0.140	0.127	0.108	0.086	0.059	0.030	0.000	
	2.170	2.101	2.039	1.986	1.944	1.914	1.895	1.889	
	3.949	3.906	3.870	3.841	3.819	3.804	3.795	3.792	
0.20	1.148	1.170	1.189	1.207	1.222	1.232	1.239	1.242	
	0.903	0.922	0.940	0.955	0.968	0.978	0.984	0.986	
	0.153	0.145	0.132	0.113	0.089	0.062	0.031	0.000	
	2.167	2.098	2.036	1.983	1.941	1.910	1.892	1.886	
	3.951	3.907	3.870	3.840	3.817	3.801	3.791	3.788	
0.25	1.156	1.177	1.197	1.214	1.228	1.239	1.246	1.248	
	0.896	0.915	0.932	0.948	0.961	0.971	0.977	0.978	
	0.158	0.150	0.136	0.117	0.092	0.064	0.032	0.000	
	2.163	2.094	2.032	1.980	1.937	1.907	1.888	1.882	
	3.950	3.907	3.869	3.837	3.813	3.796	3.786	3.782	
0.30	1.164	1.184	1.204	1.221	1.235	1.246	1.252	1.254	
	0.889	0.908	0.925	0.941	0.954	0.964	0.970	0.972	
	0.162	0.154	0.140	0.120	0.095	0.066	0.033	0.000	
	2.159	2.090	2.028	1.975	1.933	1.902	1.883	1.877	
	3.948	3.904	3.866	3.833	3.808	3.790	3.779	3.776	
0.35	1.171	1.191	1.211	1.228	1.242	1.252	1.258	1.261	
	0.882	0.901	0.919	0.934	0.947	0.957	0.963	0.965	
	0.166	0.158	0.143	0.123	0.097	0.067	0.034	0.000	
	2.154	2.085	2.023	1.970	1.928	1.897	1.878	1.872	
	3.944	3.900	3.861	3.828	3.802	3.783	3.772	3.768	
0.40	1.178	1.198	1.217	1.234	1.248	1.258	1.265	1.267	
	0.875	0.894	0.912	0.928	0.941	0.950	0.956	0.958	
	0.170	0.161	0.146	0.125	0.099	0.068	0.035	0.000	
	2.148	2.079	2.017	1.965	1.922	1.891	1.873	1.866	
	3.939	3.895	3.856	3.822	3.795	3.776	3.764	3.760	
0.45	1.185	1.205	1.224	1.241	1.254	1.264	1.271	1.273	
	0.868	0.887	0.905	0.921	0.934	0.944	0.950	0.952	
	0.173	0.164	0.149	0.127	0.101	0.070	0.035	0.000	
	2.141	2.073	2.011	1.958	1.916	1.885	1.866	1.860	
	3.933	3.889	3.849	3.815	3.787	3.767	3.755	3.751	
0.50	1.192	1.212	1.230	1.247	1.260	1.271	1.277	1.279	
	0.861	0.881	0.899	0.915	0.928	0.938	0.944	0.946	
	0.175	0.167	0.151	0.129	0.102	0.071	0.036	0.000	
	2.134	2.066	2.004	1.952	1.909	1.878	1.860	1.853	
	3.926	3.882	3.841	3.806	3.778	3.758	3.745	3.741	

$$M_{\infty} = 4, \beta_K = 40^\circ, \alpha = 5^\circ$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.55	1.198	1.218	1.237	1.253	1.267	1.277	1.283	1.285	
	0.855	0.874	0.893	0.909	0.922	0.932	0.938	0.940	
	0.178	0.169	0.153	0.131	0.104	0.071	0.036	0.000	
	2.127	2.059	1.997	1.945	1.902	1.871	1.852	1.846	
0.60	3.918	3.873	3.833	3.797	3.769	3.748	3.735	3.731	
	1.205	1.225	1.243	1.259	1.273	1.282	1.289	1.291	
	0.848	0.868	0.887	0.903	0.916	0.926	0.932	0.934	
	0.180	0.171	0.155	0.133	0.105	0.072	0.037	0.000	
0.65	2.119	2.051	1.989	1.937	1.894	1.863	1.845	1.838	
	3.909	3.864	3.823	3.788	3.759	3.737	3.724	3.719	
	1.211	1.231	1.249	1.265	1.278	1.288	1.294	1.297	
	0.842	0.862	0.881	0.897	0.910	0.920	0.926	0.928	
0.70	0.182	0.173	0.157	0.134	0.106	0.073	0.037	0.000	
	2.110	2.042	1.981	1.929	1.886	1.855	1.836	1.830	
	3.899	3.854	3.813	3.777	3.748	3.726	3.712	3.708	
	1.218	1.237	1.255	1.271	1.284	1.294	1.300	1.302	
0.75	0.836	0.856	0.875	0.891	0.904	0.914	0.921	0.923	
	0.184	0.175	0.158	0.135	0.107	0.074	0.037	0.000	
	2.101	2.033	1.972	1.920	1.878	1.847	1.828	1.821	
	3.889	3.844	3.802	3.766	3.736	3.714	3.700	3.695	
0.80	1.224	1.243	1.261	1.277	1.290	1.300	1.306	1.308	
	0.830	0.850	0.869	0.885	0.899	0.909	0.915	0.917	
	0.186	0.176	0.160	0.136	0.108	0.074	0.038	0.000	
	2.091	2.024	1.963	1.911	1.869	1.838	1.819	1.812	
0.85	3.877	3.832	3.790	3.754	3.723	3.701	3.687	3.682	
	1.230	1.250	1.267	1.283	1.296	1.306	1.312	1.314	
	0.824	0.845	0.864	0.880	0.893	0.904	0.910	0.912	
	0.188	0.178	0.161	0.137	0.108	0.075	0.038	0.000	
0.90	2.081	2.014	1.954	1.901	1.859	1.828	1.809	1.803	
	3.865	3.820	3.778	3.741	3.710	3.687	3.673	3.668	
	1.237	1.256	1.273	1.289	1.302	1.312	1.317	1.319	
	0.819	0.839	0.858	0.875	0.888	0.898	0.904	0.906	
0.95	0.189	0.179	0.162	0.138	0.109	0.075	0.038	0.000	
	2.070	2.004	1.944	1.891	1.849	1.818	1.799	1.793	
	3.852	3.807	3.765	3.728	3.697	3.673	3.659	3.654	
	1.243	1.262	1.279	1.295	1.308	1.317	1.323	1.325	
1.00	0.813	0.834	0.853	0.869	0.883	0.893	0.899	0.901	
	0.191	0.180	0.163	0.139	0.110	0.076	0.038	0.000	
	2.059	1.993	1.933	1.881	1.839	1.808	1.789	1.783	
	3.838	3.793	3.751	3.714	3.682	3.659	3.644	3.639	
F_x	1.249	1.268	1.285	1.301	1.314	1.323	1.329	1.331	
	0.807	0.828	0.847	0.864	0.878	0.888	0.894	0.896	
	0.192	0.182	0.164	0.140	0.110	0.076	0.039	0.000	
	2.048	1.982	1.922	1.870	1.828	1.797	1.779	1.772	
	3.824	3.779	3.737	3.699	3.667	3.643	3.629	3.624	
F_x	1.255	1.274	1.291	1.307	1.319	1.329	1.335	1.337	
	0.802	0.823	0.842	0.859	0.872	0.883	0.889	0.891	
	0.193	0.183	0.165	0.141	0.111	0.076	0.039	0.000	
	2.036	1.970	1.911	1.859	1.817	1.786	1.767	1.761	
	3.809	3.764	3.722	3.683	3.652	3.628	3.613	3.607	
F_x	1.140	1.137	1.134	1.131	1.128	1.126	1.125	1.124	

$$M_{\infty} = 6, \beta_K = 10^\circ, \alpha = 2^\circ 30'$$

ξ	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.00	2.190	2.190	2.191	2.193	2.195	2.197	2.200	2.203	2.206
	0.386	0.386	0.386	0.386	0.387	0.387	0.387	0.388	0.389
	0.000	0.017	0.033	0.049	0.063	0.076	0.086	0.093	0.097
	0.374	0.372	0.367	0.358	0.346	0.332	0.317	0.301	0.286
0.05	2.396	2.387	2.362	2.322	2.268	2.204	2.133	2.059	1.985
	2.192	2.192	2.193	2.195	2.197	2.200	2.203	2.207	2.211
	0.377	0.377	0.378	0.378	0.378	0.379	0.380	0.380	0.381
	0.000	0.017	0.034	0.050	0.064	0.077	0.087	0.094	0.098
0.10	0.374	0.372	0.367	0.358	0.346	0.332	0.317	0.301	0.286
	2.395	2.387	2.364	2.327	2.278	2.219	2.154	2.086	2.018
	2.193	2.193	2.194	2.196	2.198	2.201	2.205	2.208	2.212
	0.369	0.369	0.369	0.370	0.370	0.371	0.372	0.373	0.374
0.15	0.000	0.017	0.034	0.050	0.065	0.077	0.087	0.094	0.098
	0.374	0.372	0.366	0.357	0.346	0.332	0.317	0.301	0.286
	2.393	2.385	2.362	2.326	2.278	2.220	2.156	2.088	2.021
	2.194	2.195	2.196	2.198	2.200	2.203	2.206	2.210	2.214
0.20	0.361	0.361	0.361	0.362	0.363	0.363	0.364	0.365	0.366
	0.000	0.017	0.034	0.050	0.065	0.077	0.087	0.094	0.097
	0.373	0.371	0.365	0.357	0.345	0.332	0.317	0.301	0.286
	2.389	2.381	2.359	2.323	2.276	2.219	2.155	2.088	2.021
0.25	2.196	2.196	2.197	2.199	2.201	2.204	2.208	2.211	2.215
	0.353	0.353	0.354	0.354	0.355	0.356	0.357	0.358	0.359
	0.000	0.017	0.034	0.050	0.064	0.077	0.087	0.093	0.097
	0.372	0.370	0.364	0.356	0.344	0.331	0.316	0.301	0.285
0.30	2.384	2.377	2.355	2.319	2.272	2.216	2.153	2.087	2.020
	2.197	2.198	2.199	2.200	2.203	2.206	2.209	2.213	2.216
	0.346	0.346	0.346	0.347	0.347	0.348	0.350	0.351	0.352
	0.000	0.017	0.034	0.050	0.064	0.076	0.086	0.093	0.096
0.35	0.370	0.369	0.363	0.355	0.343	0.330	0.315	0.300	0.285
	2.378	2.370	2.349	2.314	2.268	2.212	2.150	2.084	2.017
	2.199	2.199	2.200	2.202	2.204	2.207	2.210	2.214	2.218
	0.338	0.338	0.339	0.339	0.340	0.341	0.343	0.344	0.346
0.40	0.000	0.017	0.034	0.050	0.064	0.076	0.086	0.092	0.096
	0.369	0.367	0.362	0.353	0.342	0.329	0.314	0.299	0.284
	2.371	2.363	2.342	2.308	2.262	2.207	2.145	2.080	2.013
	2.200	2.201	2.202	2.203	2.206	2.208	2.212	2.215	2.219
0.45	0.331	0.331	0.331	0.332	0.333	0.334	0.336	0.337	0.339
	0.000	0.017	0.034	0.050	0.064	0.076	0.085	0.092	0.095
	0.367	0.365	0.360	0.352	0.341	0.327	0.313	0.298	0.283
	2.362	2.355	2.334	2.300	2.255	2.201	2.139	2.074	2.008
0.50	2.202	2.202	2.203	2.205	2.207	2.210	2.213	2.217	2.220
	0.323	0.324	0.324	0.325	0.326	0.327	0.329	0.331	0.332
	0.000	0.017	0.034	0.050	0.064	0.076	0.085	0.091	0.094
	0.365	0.363	0.358	0.350	0.339	0.326	0.311	0.296	0.281
0.55	2.353	2.346	2.325	2.292	2.247	2.193	2.133	2.068	2.002
	2.203	2.203	2.204	2.206	2.208	2.211	2.214	2.218	2.222
	0.316	0.316	0.317	0.318	0.319	0.321	0.322	0.324	0.326
	0.000	0.017	0.034	0.049	0.063	0.075	0.084	0.091	0.094
0.60	0.363	0.361	0.356	0.348	0.337	0.324	0.310	0.295	0.280
	2.342	2.336	2.315	2.282	2.238	2.185	2.125	2.061	1.995
	2.205	2.205	2.206	2.208	2.210	2.213	2.216	2.219	2.223
	0.309	0.309	0.310	0.311	0.312	0.314	0.316	0.318	0.320
0.65	0.000	0.017	0.034	0.049	0.063	0.075	0.084	0.090	0.093
	0.361	0.359	0.354	0.346	0.335	0.322	0.308	0.293	0.278
	2.331	2.324	2.304	2.272	2.228	2.175	2.116	2.053	1.988

$$M_{\infty} = 6, \beta_k = 10^\circ, \alpha = 2^\circ 30'$$

ξ	θ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.55	2.206 0.302 0.000 0.358 2.319	2.206 0.302 0.017 0.356 2.312	2.207 0.303 0.034 0.351 2.292	2.209 0.304 0.049 0.343 2.260	2.211 0.306 0.063 0.333 2.217	2.214 0.307 0.075 0.320 2.165	2.217 0.309 0.084 0.306 2.106	2.221 0.312 0.089 0.291 2.043	2.224 0.314 0.092 0.277 1.979
0.60	2.207 0.295 0.000 0.355 2.306	2.208 0.296 0.017 0.353 2.299	2.209 0.296 0.033 0.348 2.280	2.210 0.297 0.049 0.341 2.248	2.213 0.299 0.063 0.330 2.205	2.215 0.301 0.074 0.317 2.154	2.219 0.303 0.083 0.304 2.096	2.222 0.305 0.089 0.289 2.033	2.226 0.308 0.092 0.275 1.969
0.65	2.209 0.288 0.000 0.352 2.292	2.209 0.289 0.017 0.350 2.285	2.210 0.289 0.033 0.346 2.266	2.212 0.291 0.049 0.338 2.235	2.214 0.292 0.062 0.327 2.193	2.217 0.294 0.074 0.315 2.142	2.220 0.297 0.083 0.301 2.084	2.223 0.299 0.088 0.287 2.022	2.227 0.302 0.091 0.272 1.959
0.70	2.210 0.282 0.000 0.349 2.277	2.211 0.282 0.017 0.347 2.270	2.212 0.283 0.033 0.342 2.251	2.213 0.284 0.049 0.335 2.220	2.216 0.286 0.062 0.324 2.179	2.218 0.288 0.074 0.312 2.129	2.221 0.290 0.082 0.299 2.072	2.225 0.293 0.088 0.284 2.010	2.228 0.296 0.090 0.270 1.947
0.75	2.212 0.275 0.000 0.345 2.261	2.212 0.275 0.017 0.344 2.254	2.213 0.276 0.033 0.339 2.235	2.215 0.277 0.048 0.331 2.205	2.217 0.279 0.062 0.321 2.164	2.220 0.281 0.073 0.309 2.115	2.223 0.284 0.082 0.296 2.058	2.226 0.287 0.087 0.282 1.998	2.230 0.300 0.090 0.268 1.935
0.80	2.213 0.268 0.000 0.342 2.243	2.214 0.268 0.017 0.340 2.237	2.215 0.269 0.033 0.336 2.219	2.216 0.271 0.048 0.328 2.189	2.219 0.273 0.062 0.318 2.149	2.221 0.275 0.073 0.306 2.100	2.224 0.278 0.082 0.293 2.044	2.228 0.281 0.087 0.279 1.984	2.231 0.283 0.089 0.265 1.921
0.85	2.215 0.261 0.000 0.338 2.225	2.215 0.261 0.017 0.336 2.219	2.216 0.262 0.033 0.332 2.201	2.218 0.264 0.048 0.324 2.171	2.220 0.266 0.062 0.315 2.132	2.223 0.268 0.073 0.303 2.083	2.226 0.271 0.081 0.290 2.028	2.229 0.274 0.087 0.276 1.969	2.233 0.277 0.089 0.262 1.907
0.90	2.217 0.254 0.000 0.334 2.206	2.217 0.254 0.017 0.332 2.200	2.218 0.255 0.033 0.328 2.182	2.219 0.257 0.048 0.320 2.153	2.222 0.259 0.062 0.311 2.114	2.224 0.262 0.073 0.299 2.066	2.227 0.265 0.081 0.286 2.012	2.231 0.268 0.086 0.273 1.953	2.234 0.271 0.088 0.259 1.891
0.95	2.218 0.247 0.000 0.329 2.185	2.219 0.247 0.017 0.328 2.179	2.220 0.248 0.033 0.323 2.161	2.221 0.250 0.048 0.316 2.133	2.223 0.252 0.061 0.307 2.094	2.226 0.255 0.072 0.296 2.047	2.229 0.258 0.081 0.283 1.994	2.232 0.261 0.086 0.269 1.935	2.236 0.265 0.088 0.256 1.874
1.00	2.220 0.239 0.000 0.325 2.162	2.220 0.240 0.017 0.323 2.157	2.221 0.241 0.033 0.319 2.139	2.223 0.243 0.048 0.312 2.111	2.225 0.245 0.061 0.303 2.073	2.227 0.248 0.072 0.291 2.027	2.230 0.251 0.080 0.279 1.974	2.234 0.255 0.086 0.266 1.916	2.237 0.258 0.087 0.252 1.855
F_x	0.240	0.240	0.241	0.241	0.243	0.244	0.246	0.248	0.250

$$M_{\infty} = 6, \beta_K = 10^{\circ}, \alpha = 2^{\circ}30'$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.00	2.209	2.212	2.215	2.218	2.220	2.222	2.223	2.231	2.223
	0.389	0.390	0.390	0.391	0.391	0.391	0.392	0.393	0.392
	0.097	0.094	0.086	0.074	0.059	0.041	0.021	0.000	0.000
	0.271	0.258	0.246	0.237	0.230	0.225	0.222	0.221	0.221
	1.914	1.849	1.792	1.745	1.709	1.683	1.667	1.724	1.662
0.05	2.214	2.218	2.222	2.225	2.228	2.230	2.231	2.232	
	0.382	0.383	0.384	0.384	0.385	0.385	0.386	0.386	
	0.098	0.094	0.086	0.075	0.059	0.041	0.021	0.000	
	0.271	0.258	0.247	0.237	0.230	0.225	0.222	0.221	
	1.952	1.893	1.841	1.798	1.765	1.741	1.727	1.723	
0.10	2.216	2.220	2.224	2.227	2.229	2.231	2.233	2.233	
	0.375	0.376	0.377	0.377	0.378	0.379	0.379	0.379	
	0.098	0.094	0.086	0.074	0.059	0.041	0.021	0.000	
	0.271	0.258	0.247	0.237	0.230	0.225	0.222	0.221	
	1.955	1.896	1.843	1.799	1.765	1.741	1.726	1.721	
0.15	2.218	2.221	2.225	2.228	2.231	2.233	2.234	2.234	
	0.367	0.368	0.370	0.370	0.371	0.372	0.372	0.373	
	0.097	0.093	0.085	0.074	0.059	0.041	0.021	0.000	
	0.271	0.258	0.246	0.237	0.229	0.224	0.221	0.220	
	1.956	1.896	1.843	1.799	1.763	1.738	1.723	1.718	
0.20	2.219	2.223	2.226	2.229	2.232	2.234	2.235	2.236	
	0.360	0.362	0.363	0.364	0.365	0.366	0.366	0.366	
	0.097	0.093	0.085	0.073	0.058	0.040	0.020	0.000	
	0.271	0.257	0.246	0.236	0.229	0.224	0.220	0.219	
	1.955	1.895	1.841	1.796	1.761	1.735	1.720	1.715	
0.25	2.220	2.224	2.228	2.231	2.233	2.235	2.236	2.237	
	0.354	0.355	0.356	0.357	0.359	0.359	0.360	0.360	
	0.096	0.092	0.084	0.072	0.057	0.040	0.020	0.000	
	0.270	0.257	0.245	0.236	0.228	0.223	0.220	0.219	
	1.952	1.892	1.838	1.793	1.757	1.731	1.715	1.710	
0.30	2.222	2.225	2.229	2.232	2.234	2.236	2.238	2.238	
	0.347	0.349	0.350	0.351	0.352	0.353	0.354	0.354	
	0.095	0.091	0.083	0.071	0.057	0.039	0.020	0.000	
	0.269	0.256	0.245	0.235	0.227	0.222	0.219	0.218	
	1.949	1.888	1.834	1.789	1.752	1.726	1.710	1.705	
0.35	2.223	2.227	2.230	2.233	2.236	2.238	2.239	2.239	
	0.341	0.342	0.344	0.345	0.346	0.347	0.348	0.348	
	0.094	0.090	0.082	0.071	0.056	0.039	0.020	0.000	
	0.268	0.255	0.244	0.234	0.226	0.221	0.218	0.217	
	1.944	1.884	1.830	1.784	1.747	1.720	1.704	1.699	
0.40	2.224	2.228	2.231	2.234	2.237	2.239	2.240	2.240	
	0.334	0.336	0.338	0.339	0.341	0.342	0.342	0.343	
	0.094	0.089	0.081	0.070	0.055	0.038	0.019	0.000	
	0.267	0.254	0.242	0.233	0.225	0.220	0.216	0.215	
	1.938	1.878	1.824	1.777	1.740	1.714	1.697	1.692	
0.45	2.226	2.229	2.233	2.236	2.238	2.240	2.241	2.241	
	0.328	0.330	0.332	0.333	0.335	0.336	0.337	0.337	
	0.093	0.088	0.080	0.069	0.055	0.038	0.019	0.000	
	0.266	0.253	0.241	0.231	0.224	0.218	0.215	0.214	
	1.931	1.871	1.817	1.771	1.733	1.706	1.690	1.684	
0.50	2.227	2.230	2.234	2.237	2.239	2.241	2.242	2.243	
	0.322	0.324	0.326	0.328	0.329	0.330	0.331	0.331	
	0.092	0.088	0.080	0.068	0.054	0.037	0.019	0.000	
	0.264	0.251	0.240	0.230	0.222	0.217	0.214	0.212	
	1.924	1.864	1.809	1.763	1.725	1.698	1.682	1.676	

$$M_{\infty} = 6, \beta_k = 10^\circ, \alpha = 2^\circ 30'$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.55	2.228 0.316 0.091 0.262 1.915	2.232 0.318 0.087 0.250 1.855	2.235 0.320 0.079 0.238 1.801	2.238 0.322 0.068 0.228 1.754	2.241 0.323 0.053 0.221 1.717	2.242 0.325 0.037 0.215 1.689	2.244 0.325 0.019 0.212 1.672	2.244 0.326 0.000 0.211 1.667	
0.60	2.229 0.310 0.091 0.261 1.906	2.233 0.312 0.086 0.248 1.846	2.236 0.315 0.078 0.236 1.792	2.239 0.316 0.067 0.227 1.745	2.242 0.318 0.053 0.219 1.707	2.244 0.319 0.036 0.213 1.680	2.245 0.320 0.018 0.210 1.663	2.245 0.320 0.000 0.209 1.657	
0.65	2.231 0.304 0.090 0.259 1.896	2.234 0.307 0.085 0.246 1.836	2.238 0.309 0.077 0.234 1.792	2.241 0.310 0.066 0.225 1.735	2.243 0.312 0.052 0.217 1.697	2.245 0.313 0.036 0.212 1.669	2.246 0.314 0.018 0.208 1.652	2.246 0.315 0.000 0.207 1.646	
0.70	2.232 0.298 0.089 0.256 1.885	2.236 0.301 0.085 0.244 1.825	2.239 0.303 0.077 0.232 1.771	2.242 0.305 0.066 0.223 1.723	2.244 0.306 0.052 0.215 1.685	2.246 0.308 0.036 0.210 1.658	2.247 0.309 0.018 0.206 1.641	2.248 0.309 0.000 0.205 1.635	
0.75	2.233 0.292 0.089 0.254 1.872	2.237 0.295 0.084 0.241 1.813	2.240 0.297 0.076 0.230 1.759	2.243 0.299 0.065 0.220 1.711	2.246 0.301 0.051 0.213 1.673	2.248 0.302 0.035 0.207 1.645	2.249 0.303 0.018 0.204 1.628	2.249 0.303 0.000 0.203 1.622	
0.80	2.235 0.286 0.088 0.252 1.859	2.238 0.289 0.083 0.239 1.810	2.242 0.291 0.075 0.228 1.746	2.245 0.293 0.064 0.218 1.698	2.247 0.295 0.051 0.210 1.660	2.249 0.296 0.035 0.205 1.632	2.250 0.297 0.018 0.202 1.614	2.251 0.297 0.000 0.200 1.609	
0.85	2.236 0.280 0.087 0.249 1.845	2.240 0.283 0.083 0.236 1.786	2.243 0.286 0.075 0.225 1.732	2.246 0.287 0.064 0.215 1.684	2.249 0.289 0.050 0.208 1.645	2.251 0.290 0.035 0.202 1.617	2.252 0.291 0.018 0.199 1.600	2.252 0.291 0.000 0.198 1.594	
0.90	2.238 0.274 0.087 0.246 1.830	2.241 0.277 0.082 0.233 1.771	2.245 0.279 0.074 0.222 1.717	2.248 0.281 0.063 0.212 1.668	2.250 0.283 0.050 0.205 1.629	2.252 0.284 0.034 0.199 1.601	2.253 0.285 0.017 0.196 1.583	2.254 0.285 0.000 0.195 1.577	
0.95	2.239 0.268 0.086 0.243 1.813	2.243 0.271 0.082 0.230 1.754	2.246 0.273 0.074 0.219 1.700	2.249 0.274 0.063 0.209 1.651	2.252 0.276 0.050 0.202 1.611	2.254 0.277 0.034 0.196 1.583	2.255 0.278 0.017 0.193 1.565	2.255 0.278 0.000 0.192 1.559	
1.00	2.241 0.261 0.086 0.239 1.794	2.244 0.264 0.081 0.227 1.735	2.248 0.266 0.073 0.216 1.681	2.251 0.267 0.062 0.206 1.631	2.254 0.269 0.049 0.198 1.591	2.256 0.270 0.034 0.193 1.562	2.257 0.271 0.017 0.189 1.544	2.257 0.271 0.000 0.188 1.538	
F_x	0.253	0.255	0.257	0.260	0.262	0.263	0.264	0.265	

$$M_{\infty} = 6, \beta_{\kappa} = 10^{\circ}, \alpha = 5^{\circ}$$

δ	θ								
	$(0^{\circ}00')$	$11^{\circ}15'$	$22^{\circ}30'$	$33^{\circ}45'$	$45^{\circ}00'$	$56^{\circ}15'$	$67^{\circ}30'$	$78^{\circ}4'$	$90^{\circ}00'$
0.00	2.164	2.164	2.166	2.168	2.172	2.177	2.182	2.188	2.194
	0.381	0.381	0.382	0.382	0.383	0.383	0.384	0.385	0.386
	0.000	0.031	0.062	0.091	0.119	0.144	0.165	0.182	0.193
	0.477	0.473	0.459	0.438	0.410	0.378	0.344	0.310	0.277
	2.749	2.730	2.675	2.587	2.471	2.334	2.185	2.032	1.882
0.05	2.165	2.166	2.168	2.171	2.175	2.180	2.187	2.193	2.201
	0.373	0.373	0.373	0.374	0.375	0.376	0.377	0.378	0.380
	0.000	0.032	0.063	0.093	0.120	0.145	0.166	0.182	0.193
	0.477	0.472	0.459	0.438	0.410	0.379	0.345	0.311	0.279
	2.748	2.731	2.680	2.598	2.491	2.364	2.224	2.080	1.940
0.10	2.167	2.167	2.169	2.173	2.177	2.182	2.189	2.196	2.203
	0.364	0.364	0.365	0.366	0.367	0.368	0.370	0.371	0.373
	0.000	0.032	0.063	0.093	0.121	0.145	0.166	0.182	0.193
	0.477	0.472	0.459	0.438	0.411	0.379	0.346	0.312	0.280
	2.746	2.729	2.679	2.600	2.495	2.372	2.235	2.094	1.955
0.15	2.168	2.169	2.171	2.174	2.178	2.184	2.190	2.197	2.205
	0.356	0.356	0.356	0.357	0.359	0.360	0.362	0.364	0.366
	0.000	0.032	0.064	0.094	0.121	0.146	0.166	0.182	0.192
	0.476	0.471	0.458	0.437	0.410	0.379	0.346	0.313	0.281
	2.742	2.725	2.677	2.600	2.497	2.376	2.243	2.104	1.966
0.20	2.170	2.170	2.172	2.176	2.180	2.185	2.192	2.199	2.206
	0.348	0.348	0.348	0.350	0.351	0.353	0.355	0.357	0.360
	0.000	0.032	0.064	0.094	0.121	0.146	0.166	0.181	0.191
	0.474	0.470	0.457	0.437	0.410	0.379	0.346	0.313	0.282
	2.737	2.721	2.673	2.598	2.498	2.379	2.247	2.110	1.975
0.25	2.171	2.172	2.174	2.177	2.182	2.187	2.193	2.200	2.208
	0.340	0.340	0.341	0.342	0.344	0.346	0.348	0.351	0.354
	0.000	0.032	0.064	0.094	0.122	0.146	0.166	0.181	0.190
	0.473	0.469	0.456	0.436	0.409	0.379	0.346	0.314	0.282
	2.730	2.714	2.668	2.594	2.496	2.379	2.250	2.115	1.980
0.30	2.173	2.173	2.175	2.179	2.183	2.188	2.195	2.202	2.209
	0.332	0.332	0.333	0.334	0.336	0.339	0.341	0.344	0.348
	0.000	0.032	0.064	0.094	0.122	0.146	0.165	0.180	0.189
	0.471	0.467	0.454	0.434	0.408	0.378	0.346	0.314	0.282
	2.722	2.707	2.662	2.589	2.493	2.379	2.251	2.118	1.984
0.35	2.174	2.175	2.177	2.180	2.185	2.190	2.196	2.203	2.211
	0.324	0.324	0.325	0.327	0.329	0.332	0.335	0.338	0.342
	0.000	0.032	0.064	0.094	0.122	0.145	0.165	0.179	0.187
	0.469	0.465	0.452	0.433	0.407	0.377	0.346	0.313	0.282
	2.714	2.699	2.654	2.583	2.489	2.376	2.251	2.119	1.987
0.40	2.176	2.176	2.178	2.182	2.186	2.191	2.198	2.204	2.212
	0.316	0.317	0.318	0.320	0.322	0.325	0.328	0.332	0.336
	0.000	0.032	0.064	0.094	0.122	0.145	0.164	0.178	0.186
	0.467	0.463	0.450	0.431	0.406	0.376	0.345	0.313	0.282
	2.704	2.689	2.646	2.576	2.483	2.373	2.249	2.119	1.988
0.45	2.177	2.178	2.180	2.183	2.187	2.193	2.199	2.206	2.213
	0.309	0.309	0.310	0.312	0.315	0.318	0.322	0.326	0.331
	0.000	0.033	0.064	0.094	0.122	0.145	0.164	0.177	0.185
	0.464	0.460	0.448	0.429	0.404	0.375	0.344	0.312	0.282
	2.692	2.678	2.636	2.568	2.477	2.368	2.247	2.118	1.988
0.50	2.179	2.179	2.181	2.185	2.189	2.194	2.200	2.207	2.214
	0.301	0.302	0.303	0.305	0.308	0.312	0.316	0.321	0.325
	0.000	0.033	0.065	0.095	0.122	0.145	0.163	0.176	0.184
	0.461	0.457	0.445	0.426	0.402	0.374	0.343	0.312	0.281
	2.680	2.666	2.625	2.558	2.469	2.362	2.243	2.115	1.987

$$M_{\infty} = 6, \beta_K = 10^3, \alpha = 5^\circ$$

ξ	θ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.55	2.180	2.181	2.183	2.186	2.190	2.195	2.202	2.208	2.215
	0.294	0.294	0.296	0.298	0.301	0.305	0.310	0.315	0.320
	0.000	0.033	0.065	0.095	0.121	0.144	0.163	0.176	0.182
	0.458	0.454	0.442	0.424	0.400	0.372	0.341	0.311	0.281
	2.667	2.653	2.613	2.548	2.460	2.355	2.237	2.112	1.984
0.60	2.182	2.182	2.184	2.187	2.192	2.197	2.203	2.209	2.217
	0.286	0.287	0.289	0.291	0.295	0.299	0.304	0.309	0.315
	0.000	0.033	0.065	0.095	0.121	0.144	0.162	0.175	0.181
	0.455	0.451	0.439	0.421	0.397	0.370	0.340	0.309	0.280
	2.653	2.640	2.600	2.536	2.451	2.347	2.231	2.107	1.981
0.65	2.183	2.184	2.186	2.189	2.193	2.198	2.204	2.211	2.218
	0.279	0.280	0.282	0.284	0.288	0.293	0.298	0.304	0.310
	0.000	0.033	0.065	0.095	0.121	0.144	0.162	0.174	0.180
	0.451	0.447	0.436	0.418	0.395	0.368	0.338	0.308	0.279
	2.638	2.625	2.586	2.523	2.440	2.339	2.224	2.102	1.977
0.70	2.185	2.185	2.187	2.190	2.194	2.200	2.205	2.212	2.219
	0.272	0.273	0.274	0.278	0.282	0.287	0.292	0.298	0.304
	0.000	0.033	0.065	0.095	0.121	0.144	0.161	0.173	0.179
	0.447	0.444	0.433	0.415	0.392	0.365	0.336	0.307	0.278
	2.621	2.609	2.571	2.510	2.428	2.329	2.216	2.096	1.972
0.75	2.186	2.187	2.189	2.192	2.196	2.201	2.207	2.213	2.220
	0.265	0.265	0.267	0.271	0.275	0.280	0.287	0.293	0.299
	0.000	0.033	0.065	0.095	0.121	0.144	0.161	0.173	0.178
	0.443	0.440	0.429	0.411	0.389	0.363	0.334	0.305	0.276
	2.604	2.592	2.555	2.495	2.415	2.318	2.207	2.088	1.965
0.80	2.188	2.189	2.190	2.193	2.197	2.202	2.208	2.214	2.221
	0.257	0.258	0.260	0.264	0.269	0.274	0.281	0.288	0.294
	0.000	0.033	0.065	0.095	0.121	0.144	0.161	0.172	0.177
	0.439	0.435	0.425	0.408	0.386	0.360	0.332	0.303	0.275
	2.586	2.574	2.538	2.479	2.401	2.306	2.197	2.080	1.958
0.85	2.190	2.190	2.192	2.195	2.199	2.204	2.209	2.216	2.222
	0.250	0.251	0.253	0.257	0.262	0.268	0.275	0.282	0.289
	0.000	0.033	0.065	0.095	0.121	0.143	0.160	0.171	0.176
	0.434	0.431	0.420	0.404	0.382	0.357	0.329	0.301	0.273
	2.566	2.554	2.519	2.463	2.386	2.293	2.186	2.070	1.950
0.90	2.191	2.192	2.194	2.196	2.200	2.205	2.211	2.217	2.224
	0.243	0.244	0.246	0.250	0.255	0.262	0.269	0.277	0.284
	0.000	0.033	0.065	0.095	0.121	0.143	0.160	0.171	0.175
	0.430	0.426	0.416	0.400	0.379	0.354	0.327	0.299	0.271
	2.546	2.534	2.500	2.445	2.370	2.278	2.174	2.060	1.941
0.95	2.193	2.194	2.195	2.198	2.202	2.207	2.212	2.218	2.225
	0.235	0.236	0.239	0.243	0.249	0.256	0.263	0.271	0.279
	0.000	0.033	0.065	0.095	0.122	0.143	0.160	0.170	0.174
	0.424	0.421	0.411	0.395	0.375	0.350	0.324	0.296	0.269
	2.523	2.512	2.479	2.425	2.352	2.263	2.160	2.048	1.931
1.00	2.195	2.195	2.197	2.200	2.203	2.208	2.213	2.219	2.226
	0.228	0.229	0.232	0.236	0.242	0.249	0.258	0.266	0.274
	0.000	0.033	0.065	0.095	0.122	0.143	0.159	0.170	0.174
	0.419	0.416	0.406	0.391	0.370	0.347	0.321	0.294	0.267
	2.500	2.489	2.457	2.405	2.334	2.246	2.146	2.036	1.919
F_x	0.234	0.234	0.235	0.236	0.238	0.241	0.244	0.248	0.252

$$M_{\infty} = 6, \beta_K = 10^\circ, \alpha = 5^\circ$$

ξ	θ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.00	2.201 0.388 0.198 0.248 1.743	2.207 0.389 0.195 0.224 1.622	2.214 0.390 0.184 0.204 1.523	2.220 0.391 0.162 0.190 1.449	2.225 0.392 0.131 0.180 1.398	2.229 0.393 0.092 0.174 1.367	2.231 0.393 0.047 0.171 1.351	2.246 0.396 0.000 0.170 1.448	2.232 0.393 0.000 0.170 1.346
0.05	2.209 0.382 0.197 0.250 1.809	2.217 0.383 0.194 0.225 1.695	2.224 0.385 0.182 0.205 1.602	2.232 0.387 0.161 0.191 1.534	2.238 0.388 0.130 0.181 1.490	2.242 0.390 0.092 0.174 1.464	2.245 0.391 0.047 0.171 1.452	2.246 0.391 0.000 0.170 1.448	
0.10	2.211 0.375 0.197 0.251 1.826	2.219 0.377 0.193 0.226 1.712	2.227 0.379 0.181 0.206 1.618	2.234 0.381 0.159 0.191 1.547	2.239 0.383 0.129 0.181 1.499	2.244 0.385 0.091 0.174 1.468	2.246 0.386 0.047 0.171 1.452	2.247 0.386 0.000 0.170 1.447	
0.15	2.213 0.369 0.196 0.252 1.838	2.221 0.371 0.191 0.227 1.723	2.228 0.373 0.179 0.207 1.628	2.235 0.376 0.158 0.192 1.555	2.240 0.378 0.127 0.181 1.503	2.245 0.380 0.089 0.175 1.470	2.247 0.381 0.046 0.171 1.451	2.248 0.382 0.000 0.170 1.445	
0.20	2.214 0.363 0.194 0.253 1.846	2.222 0.365 0.190 0.228 1.732	2.229 0.368 0.177 0.208 1.636	2.236 0.371 0.155 0.192 1.560	2.242 0.373 0.125 0.182 1.506	2.246 0.376 0.088 0.174 1.470	2.248 0.377 0.045 0.171 1.450	2.249 0.378 0.000 0.169 1.443	
0.25	2.216 0.357 0.193 0.253 1.853	2.223 0.360 0.188 0.229 1.738	2.231 0.363 0.175 0.208 1.641	2.237 0.366 0.153 0.193 1.563	2.243 0.368 0.123 0.182 1.507	2.247 0.371 0.086 0.174 1.469	2.249 0.373 0.044 0.170 1.447	2.250 0.374 0.000 0.169 1.440	
0.30	2.217 0.351 0.191 0.254 1.857	2.225 0.354 0.186 0.229 1.742	2.232 0.368 0.173 0.209 1.644	2.238 0.361 0.151 0.193 1.565	2.244 0.364 0.121 0.181 1.507	2.247 0.367 0.085 0.174 1.467	2.250 0.369 0.043 0.170 1.444	2.251 0.369 0.000 0.168 1.437	
0.35	2.218 0.346 0.189 0.254 1.860	2.226 0.349 0.184 0.229 1.745	2.233 0.353 0.170 0.209 1.646	2.239 0.356 0.149 0.193 1.566	2.244 0.359 0.119 0.181 1.506	2.248 0.363 0.083 0.173 1.464	2.251 0.365 0.043 0.169 1.441	2.251 0.365 0.000 0.168 1.433	
0.40	2.219 0.340 0.188 0.254 1.862	2.227 0.344 0.182 0.229 1.747	2.234 0.348 0.168 0.209 1.647	2.240 0.352 0.146 0.193 1.565	2.245 0.355 0.117 0.181 1.504	2.249 0.358 0.082 0.173 1.461	2.252 0.360 0.042 0.168 1.437	2.252 0.361 0.000 0.167 1.428	
0.45	2.220 0.335 0.186 0.254 1.863	2.228 0.339 0.180 0.229 1.747	2.235 0.353 0.166 0.209 1.647	2.241 0.347 0.144 0.192 1.564	2.246 0.351 0.115 0.180 1.501	2.250 0.354 0.081 0.172 1.457	2.252 0.356 0.041 0.168 1.432	2.253 0.357 0.000 0.166 1.423	
0.50	2.222 0.330 0.184 0.253 1.862	2.229 0.334 0.178 0.229 1.747	2.236 0.339 0.164 0.208 1.645	2.242 0.343 0.142 0.192 1.562	2.247 0.347 0.114 0.180 1.497	2.251 0.350 0.079 0.171 1.452	2.253 0.352 0.040 0.167 1.426	2.254 0.353 0.000 0.165 1.417	

$$M_{\infty} = 6, \beta_{\kappa} = 10^{\circ}, \alpha = 5^{\circ}$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.55	2.223 0.325 0.183 0.253 1.860	2.230 0.330 0.176 0.228 1.745	2.237 0.334 0.162 0.208 1.643	2.243 0.339 0.140 0.191 1.558	2.248 0.342 0.112 0.179 1.493	2.252 0.346 0.078 0.170 1.447	2.254 0.348 0.040 0.166 1.420	2.255 0.349 0.000 0.164 1.411	
0.60	2.234 0.320 0.181 0.252 1.858	2.231 0.325 0.174 0.228 1.742	2.238 0.330 0.160 0.207 1.640	2.244 0.334 0.139 0.190 1.554	2.249 0.338 0.110 0.178 1.488	2.253 0.341 0.077 0.169 1.441	2.255 0.344 0.039 0.164 1.413	2.256 0.345 0.000 0.163 1.404	
0.65	2.225 0.315 0.180 0.251 1.854	2.232 0.331 0.172 0.227 1.739	2.239 0.325 0.158 0.206 1.636	2.245 0.330 0.137 0.189 1.550	2.250 0.334 0.109 0.177 1.482	2.254 0.337 0.076 0.168 1.434	2.256 0.339 0.039 0.163 1.406	2.257 0.340 0.000 0.162 1.396	
0.70	2.226 0.310 0.178 0.250 1.850	2.233 0.326 0.171 0.226 1.735	2.240 0.321 0.156 0.205 1.631	2.246 0.326 0.135 0.188 1.544	2.251 0.329 0.108 0.176 1.475	2.255 0.333 0.075 0.167 1.426	2.257 0.335 0.038 0.162 1.397	2.258 0.336 0.000 0.160 1.387	
0.75	2.227 0.306 0.177 0.249 1.844	2.234 0.312 0.169 0.225 1.729	2.241 0.316 0.155 0.204 1.625	2.247 0.321 0.133 0.187 1.537	2.253 0.325 0.106 0.174 1.467	2.256 0.328 0.074 0.165 1.417	2.259 0.330 0.038 0.160 1.388	2.259 0.331 0.000 0.158 1.378	
0.80	2.228 0.301 0.176 0.248 1.838	2.235 0.307 0.168 0.224 1.723	2.242 0.312 0.153 0.203 1.619	2.248 0.317 0.132 0.186 1.530	2.254 0.320 0.105 0.173 1.458	2.257 0.324 0.073 0.164 1.407	2.260 0.326 0.037 0.159 1.377	2.261 0.326 0.000 0.157 1.367	
0.85	2.229 0.296 0.175 0.246 1.831	2.236 0.312 0.166 0.222 1.716	2.243 0.307 0.152 0.202 1.611	2.250 0.312 0.130 0.184 1.521	2.255 0.315 0.104 0.171 1.448	2.259 0.319 0.072 0.162 1.396	2.261 0.321 0.037 0.157 1.365	2.262 0.321 0.000 0.155 1.355	
0.90	2.231 0.292 0.173 0.245 1.822	2.238 0.298 0.165 0.221 1.708	2.245 0.303 0.150 0.200 1.602	2.251 0.307 0.129 0.183 1.511	2.256 0.310 0.102 0.169 1.437	2.260 0.313 0.071 0.160 1.383	2.263 0.315 0.036 0.154 1.352	2.264 0.316 0.000 0.152 1.341	
0.95	2.232 0.287 0.172 0.243 1.813	2.239 0.293 0.163 0.219 1.699	2.246 0.298 0.149 0.198 1.592	2.252 0.302 0.128 0.181 1.500	2.258 0.305 0.101 0.167 1.423	2.262 0.308 0.070 0.157 1.369	2.264 0.309 0.036 0.152 1.336	2.265 0.309 0.000 0.150 1.324	
1.00	2.233 0.282 0.171 0.241 1.802	2.240 0.288 0.162 0.217 1.688	2.247 0.293 0.147 0.196 1.581	2.254 0.297 0.126 0.179 1.487	2.259 0.299 0.100 0.164 1.408	2.263 0.301 0.070 0.155 1.351	2.266 0.302 0.035 0.149 1.316	2.267 0.302 0.000 0.147 1.304	
F_x	0.257	0.262	0.268	0.274	0.279	0.282	0.285	0.286	

$$M_{\infty} = 6, \beta_K = 15^{\circ}, \alpha = 5^{\circ}$$

ξ	θ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	8°45'	90°00'
0.00	2.051	2.052	2.054	2.057	2.061	2.066	2.072	2.079	2.087
	0.549	0.549	0.550	0.551	0.552	0.553	0.555	0.557	0.559
	0.000	0.026	0.052	0.076	0.098	0.118	0.134	0.146	0.153
	0.757	0.751	0.733	0.705	0.668	0.625	0.579	0.531	0.485
	3.445	3.425	3.368	3.276	3.154	3.009	2.850	2.683	2.517
0.05	2.053	2.054	2.057	2.061	2.067	2.075	2.084	2.094	2.104
	0.542	0.542	0.543	0.544	0.546	0.548	0.550	0.553	0.556
	0.000	0.027	0.055	0.080	0.103	0.123	0.140	0.152	0.159
	0.757	0.751	0.733	0.705	0.668	0.626	0.579	0.532	0.486
	3.444	3.428	3.379	3.302	3.199	3.077	2.941	2.800	2.659
0.10	2.055	2.056	2.059	2.064	2.070	2.078	2.087	2.097	2.108
	0.534	0.534	0.535	0.536	0.538	0.541	0.543	0.547	0.550
	0.000	0.028	0.056	0.083	0.107	0.127	0.144	0.156	0.163
	0.756	0.750	0.733	0.705	0.668	0.626	0.579	0.532	0.486
	3.442	3.426	3.380	3.305	3.205	3.087	2.955	2.817	2.678
0.15	2.057	2.058	2.061	2.066	2.072	2.080	2.089	2.099	2.110
	0.526	0.527	0.528	0.529	0.531	0.534	0.537	0.540	0.543
	0.000	0.029	0.058	0.085	0.109	0.131	0.148	0.160	0.167
	0.755	0.749	0.732	0.704	0.668	0.625	0.579	0.532	0.486
	3.439	3.423	3.378	3.305	3.208	3.092	2.963	2.827	2.690
0.20	2.059	2.060	2.063	2.068	2.074	2.082	2.092	2.102	2.113
	0.519	0.519	0.520	0.522	0.524	0.527	0.530	0.534	0.537
	0.000	0.030	0.059	0.087	0.112	0.133	0.150	0.163	0.170
	0.754	0.748	0.731	0.703	0.667	0.625	0.579	0.532	0.486
	3.434	3.419	3.375	3.304	3.209	3.095	2.968	2.834	2.698
0.25	2.061	2.062	2.065	2.070	2.077	2.084	2.094	2.104	2.115
	0.511	0.512	0.513	0.515	0.517	0.520	0.523	0.527	0.531
	0.000	0.030	0.060	0.088	0.114	0.135	0.153	0.165	0.172
	0.752	0.746	0.729	0.702	0.666	0.624	0.579	0.532	0.486
	3.428	3.413	3.370	3.301	3.208	3.097	2.971	2.839	2.704
0.30	2.063	2.064	2.067	2.072	2.079	2.087	2.096	2.106	2.117
	0.504	0.505	0.506	0.508	0.510	0.513	0.517	0.521	0.525
	0.000	0.031	0.061	0.090	0.115	0.137	0.155	0.167	0.174
	0.750	0.744	0.727	0.700	0.665	0.623	0.578	0.531	0.486
	3.421	3.407	3.365	3.296	3.206	3.096	2.973	2.841	2.707
0.35	2.065	2.066	2.069	2.074	2.081	2.089	2.098	2.108	2.119
	0.497	0.497	0.499	0.501	0.503	0.507	0.511	0.515	0.519
	0.000	0.031	0.062	0.091	0.117	0.139	0.156	0.169	0.175
	0.748	0.742	0.725	0.698	0.663	0.622	0.577	0.530	0.485
	3.413	3.399	3.358	3.291	3.202	3.094	2.972	2.842	2.709
0.40	2.068	2.069	2.071	2.076	2.083	2.091	2.100	2.110	2.121
	0.490	0.490	0.492	0.494	0.497	0.500	0.504	0.509	0.513
	0.000	0.032	0.063	0.092	0.118	0.140	0.158	0.170	0.176
	0.745	0.739	0.722	0.696	0.661	0.620	0.575	0.529	0.484
	3.403	3.390	3.349	3.284	3.197	3.091	2.971	2.842	2.710
0.45	2.070	2.071	2.074	2.078	2.085	2.093	2.102	2.112	2.122
	0.483	0.483	0.485	0.487	0.490	0.494	0.498	0.503	0.507
	0.000	0.032	0.064	0.093	0.119	0.142	0.159	0.171	0.177
	0.742	0.736	0.720	0.693	0.659	0.618	0.574	0.528	0.483
	3.393	3.380	3.340	3.276	3.190	3.086	2.968	2.840	2.709
0.50	2.072	2.073	2.076	2.080	2.087	2.095	2.104	2.114	2.124
	0.475	0.476	0.478	0.480	0.483	0.487	0.492	0.497	0.502
	0.000	0.033	0.064	0.094	0.121	0.143	0.161	0.173	0.178
	0.738	0.733	0.716	0.690	0.656	0.616	0.572	0.527	0.482
	3.381	3.368	3.330	3.267	3.183	3.080	2.963	2.837	2.707

$$M_{\infty} = 6, \beta_{\kappa} = 15^{\circ}, \alpha = 5^{\circ}$$

η^{**}	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.55	2.074 0.468 0.000 0.735 3.369	2.075 0.469 0.033 0.729 3.356	2.078 0.471 0.065 0.713 3.318	2.082 0.473 0.095 0.687 3.257	2.089 0.477 0.122 0.653 3.174	2.097 0.481 0.144 0.613 3.073	2.106 0.486 0.162 0.570 2.958	2.115 0.491 0.174 0.525 2.833	2.126 0.496 0.179 0.480 2.703
0.60	2.076 0.461 0.000 0.730 3.355	2.077 0.462 0.033 0.725 3.343	2.080 0.464 0.066 0.709 3.306	2.084 0.467 0.096 0.683 3.245	2.091 0.470 0.123 0.650 3.164	2.099 0.475 0.145 0.611 3.065	2.107 0.480 0.163 0.567 2.951	2.117 0.485 0.175 0.523 2.828	2.128 0.491 0.180 0.479 2.699
0.65	2.078 0.454 0.000 0.726 3.340	2.079 0.455 0.034 0.721 3.328	2.082 0.457 0.066 0.705 3.292	2.087 0.460 0.097 0.680 3.233	2.093 0.464 0.124 0.647 3.153	2.100 0.469 0.146 0.608 3.056	2.109 0.474 0.164 0.565 2.944	2.119 0.480 0.175 0.521 2.822	2.129 0.485 0.181 0.477 2.694
0.70	2.080 0.447 0.000 0.721 3.324	2.081 0.448 0.034 0.716 3.313	2.084 0.450 0.067 0.700 3.277	2.089 0.453 0.097 0.676 3.220	2.095 0.457 0.125 0.643 3.142	2.102 0.462 0.147 0.604 3.046	2.111 0.468 0.165 0.562 2.935	2.121 0.474 0.176 0.518 2.814	2.131 0.480 0.181 0.475 2.687
0.75	2.082 0.440 0.000 0.716 3.308	2.083 0.441 0.034 0.711 3.296	2.086 0.443 0.067 0.696 3.261	2.091 0.446 0.098 0.671 3.205	2.097 0.451 0.125 0.639 3.129	2.104 0.456 0.148 0.601 3.034	2.113 0.462 0.166 0.559 2.926	2.123 0.468 0.177 0.516 2.806	2.133 0.474 0.182 0.473 2.680
0.80	2.085 0.433 0.000 0.711 3.289	2.086 0.434 0.034 0.706 3.278	2.088 0.436 0.068 0.691 3.244	2.093 0.440 0.099 0.666 3.189	2.099 0.444 0.126 0.635 3.114	2.106 0.450 0.149 0.597 3.022	2.115 0.456 0.166 0.556 2.915	2.125 0.463 0.178 0.513 2.797	2.135 0.469 0.182 0.470 2.671
0.85	2.087 0.426 0.000 0.705 3.270	2.088 0.427 0.035 0.700 3.259	2.091 0.429 0.068 0.685 3.226	2.095 0.433 0.100 0.661 3.172	2.101 0.438 0.127 0.630 3.099	2.108 0.444 0.150 0.593 3.008	2.117 0.450 0.167 0.552 2.903	2.126 0.457 0.178 0.510 2.786	2.136 0.464 0.183 0.467 2.662
0.90	2.089 0.419 0.000 0.699 3.250	2.090 0.420 0.035 0.694 3.239	2.093 0.422 0.069 0.679 3.207	2.097 0.426 0.100 0.656 3.154	2.103 0.432 0.128 0.625 3.083	2.110 0.438 0.151 0.589 2.994	2.119 0.445 0.168 0.549 2.890	2.128 0.452 0.179 0.507 2.775	2.138 0.458 0.183 0.465 2.651
0.95	2.091 0.412 0.000 0.693 3.228	2.092 0.413 0.035 0.688 3.217	2.095 0.415 0.069 0.673 3.186	2.099 0.420 0.101 0.650 3.135	2.105 0.425 0.129 0.620 3.065	2.112 0.431 0.151 0.584 2.978	2.121 0.439 0.168 0.545 2.876	2.130 0.446 0.179 0.503 2.762	2.140 0.453 0.183 0.462 2.640
1.00	2.094 0.405 0.000 0.686 3.205	2.095 0.406 0.035 0.681 3.195	2.097 0.408 0.070 0.667 3.164	2.102 0.413 0.101 0.644 3.115	2.107 0.418 0.129 0.615 3.046	2.114 0.425 0.152 0.579 2.961	2.123 0.433 0.169 0.540 2.861	2.132 0.440 0.180 0.499 2.748	2.142 0.448 0.184 0.458 2.627
F_x	0.331	0.332	0.332	0.333	0.334	0.336	0.337	0.340	0.342

$$M_{\infty} = 6, \beta_{\kappa} = 15^{\circ}, \alpha = 5^{\circ}$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.00	2.095	2.102	2.110	2.116	2.122	2.126	2.128	2.166	2.129
	0.561	0.563	0.565	0.567	0.568	0.569	0.570	0.580	0.570
	0.155	0.150	0.139	0.121	0.097	0.067	0.034	0.000	0.000
	0.442	0.404	0.372	0.346	0.327	0.314	0.306	0.303	0.303
	2.359	2.216	2.092	1.990	1.912	1.858	1.826	2.108	1.816
0.05	2.115	2.126	2.137	2.147	2.155	2.162	2.166	2.167	
	0.559	0.562	0.565	0.568	0.570	0.572	0.573	0.574	
	0.160	0.155	0.143	0.125	0.100	0.070	0.036	0.000	
	0.443	0.405	0.373	0.347	0.327	0.314	0.306	0.303	
	2.526	2.407	2.307	2.228	2.171	2.134	2.114	2.108	
0.10	2.119	2.130	2.140	2.150	2.158	2.164	2.168	2.169	
	0.553	0.556	0.559	0.562	0.564	0.566	0.567	0.568	
	0.165	0.159	0.147	0.129	0.104	0.072	0.037	0.000	
	0.443	0.405	0.373	0.347	0.327	0.313	0.306	0.303	
	2.547	2.427	2.325	2.242	2.180	2.138	2.114	2.106	
0.15	2.121	2.132	2.143	2.152	2.160	2.166	2.169	2.171	
	0.547	0.550	0.553	0.556	0.558	0.560	0.561	0.562	
	0.168	0.162	0.150	0.131	0.105	0.073	0.038	0.000	
	0.444	0.405	0.373	0.347	0.327	0.313	0.305	0.302	
	2.559	2.439	2.335	2.249	2.184	2.139	2.112	2.104	
0.20	2.124	2.134	2.145	2.154	2.162	2.167	2.171	2.172	
	0.541	0.544	0.547	0.550	0.553	0.555	0.556	0.556	
	0.170	0.165	0.152	0.133	0.106	0.074	0.038	0.000	
	0.444	0.405	0.373	0.347	0.327	0.313	0.304	0.302	
	2.567	2.447	2.341	2.253	2.186	2.138	2.110	2.100	
0.25	2.126	2.137	2.147	2.156	2.163	2.169	2.173	2.174	
	0.535	0.538	0.542	0.545	0.547	0.549	0.550	0.551	
	0.172	0.166	0.153	0.134	0.107	0.074	0.038	0.000	
	0.443	0.405	0.373	0.346	0.326	0.312	0.304	0.301	
	2.573	2.452	2.345	2.255	2.185	2.135	2.106	2.096	
0.30	2.128	2.138	2.149	2.158	2.165	2.171	2.174	2.175	
	0.529	0.533	0.536	0.539	0.542	0.544	0.545	0.545	
	0.174	0.168	0.154	0.134	0.107	0.075	0.038	0.000	
	0.443	0.405	0.372	0.346	0.325	0.311	0.303	0.300	
	2.577	2.455	2.347	2.256	2.184	2.132	2.101	2.091	
0.35	2.130	2.140	2.150	2.159	2.167	2.172	2.176	2.177	
	0.523	0.527	0.531	0.534	0.536	0.538	0.540	0.540	
	0.175	0.169	0.155	0.135	0.108	0.075	0.038	0.000	
	0.443	0.405	0.372	0.345	0.324	0.310	0.302	0.299	
	2.579	2.457	2.347	2.254	2.181	2.128	2.096	2.085	
0.40	2.131	2.142	2.152	2.161	2.168	2.174	2.177	2.178	
	0.517	0.522	0.525	0.528	0.531	0.533	0.534	0.535	
	0.176	0.169	0.156	0.135	0.108	0.075	0.038	0.000	
	0.442	0.404	0.371	0.344	0.323	0.309	0.300	0.298	
	2.580	2.457	2.346	2.252	2.177	2.122	2.090	2.079	
0.45	2.133	2.144	2.154	2.163	2.170	2.175	2.179	2.180	
	0.512	0.516	0.520	0.523	0.526	0.528	0.529	0.530	
	0.177	0.170	0.156	0.135	0.108	0.075	0.038	0.000	
	0.441	0.403	0.370	0.343	0.322	0.308	0.299	0.296	
	2.579	2.456	2.344	2.249	2.172	2.116	2.083	2.071	
0.50	2.135	2.145	2.155	2.164	2.172	2.177	2.180	2.182	
	0.506	0.511	0.515	0.518	0.521	0.523	0.524	0.525	
	0.178	0.170	0.156	0.135	0.107	0.075	0.038	0.000	
	0.440	0.402	0.369	0.342	0.321	0.306	0.297	0.294	
	2.577	2.454	2.341	2.244	2.166	2.109	2.075	2.063	

$$M_{\infty} = 6, \beta_{\kappa} = 15^{\circ}, \alpha = 5^{\circ}$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.55	2.137 0.501 0.178 0.439 2.574	2.147 0.506 0.171 0.401 2.450	2.157 0.510 0.156 0.368 2.337	2.166 0.513 0.135 0.341 2.239	2.173 0.516 0.107 0.319 2.160	2.179 0.518 0.074 0.305 2.102	2.182 0.519 0.038 0.296 2.066	2.183 0.520 0.000 0.293 2.055	
0.60	2.138 0.496 0.179 0.437 2.570	2.149 0.500 0.171 0.399 2.446	2.159 0.505 0.156 0.366 2.332	2.167 0.508 0.135 0.339 2.233	2.175 0.511 0.107 0.318 2.152	2.180 0.513 0.074 0.303 2.093	2.184 0.514 0.038 0.294 2.057	2.185 0.515 0.000 0.291 2.045	
0.65	2.140 0.491 0.179 0.435 2.565	2.150 0.495 0.171 0.398 2.441	2.160 0.500 0.156 0.365 2.326	2.169 0.503 0.134 0.337 2.226	2.176 0.506 0.107 0.316 2.144	2.182 0.508 0.074 0.301 2.084	2.185 0.509 0.038 0.292 2.047	2.186 0.509 0.000 0.289 2.035	
0.70	2.142 0.485 0.180 0.434 2.559	2.152 0.490 0.171 0.396 2.434	2.162 0.495 0.156 0.363 2.319	2.171 0.498 0.134 0.336 2.218	2.178 0.501 0.106 0.314 2.135	2.183 0.503 0.074 0.299 2.074	2.187 0.504 0.038 0.290 2.036	2.188 0.504 0.000 0.287 2.023	
0.75	2.143 0.480 0.180 0.432 2.552	2.154 0.485 0.171 0.394 2.427	2.163 0.490 0.156 0.361 2.311	2.172 0.493 0.134 0.334 2.209	2.180 0.496 0.106 0.312 2.125	2.185 0.498 0.073 0.296 2.063	2.189 0.499 0.037 0.287 2.024	2.190 0.499 0.000 0.284 2.011	
0.80	2.145 0.475 0.180 0.429 2.544	2.155 0.480 0.171 0.392 2.419	2.165 0.485 0.155 0.359 2.302	2.174 0.488 0.133 0.331 2.199	2.181 0.491 0.105 0.310 2.114	2.187 0.492 0.073 0.294 2.050	2.190 0.494 0.037 0.285 2.011	2.191 0.494 0.000 0.282 1.998	
0.85	2.147 0.470 0.180 0.427 2.535	2.157 0.475 0.171 0.390 2.410	2.167 0.480 0.155 0.357 2.293	2.175 0.483 0.133 0.329 2.188	2.183 0.486 0.105 0.307 2.102	2.189 0.487 0.073 0.291 2.037	2.192 0.488 0.037 0.282 1.997	2.193 0.488 0.000 0.279 1.984	
0.90	2.148 0.465 0.180 0.424 2.525	2.159 0.470 0.171 0.387 2.400	2.168 0.475 0.155 0.354 2.282	2.177 0.478 0.132 0.326 2.177	2.185 0.480 0.105 0.304 2.089	2.190 0.482 0.072 0.289 2.023	2.194 0.483 0.037 0.279 1.982	2.195 0.483 0.000 0.276 1.968	
0.95	2.150 0.460 0.180 0.422 2.514	2.160 0.465 0.171 0.384 2.389	2.170 0.470 0.154 0.352 2.270	2.179 0.473 0.132 0.324 2.164	2.186 0.475 0.104 0.302 2.074	2.192 0.476 0.072 0.285 2.007	2.196 0.477 0.036 0.276 1.966	2.197 0.477 0.000 0.273 1.951	
1.00	2.152 0.454 0.180 0.419 2.502	2.162 0.460 0.170 0.382 2.377	2.172 0.465 0.154 0.349 2.257	2.181 0.468 0.131 0.321 2.150	2.188 0.470 0.104 0.298 2.059	2.194 0.471 0.071 0.282 1.990	2.198 0.471 0.036 0.272 1.947	2.199 0.471 0.000 0.269 1.933	
F_x	0.344	0.347	0.349	0.351	0.353	0.354	0.355	0.355	

$$M_{\infty} = 6, \beta_K = 15^\circ, \alpha = 10^\circ$$

ξ	θ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.00	1.968	1.970	1.973	1.979	1.988	1.998	2.011	2.025	2.040
	0.527	0.527	0.528	0.530	0.532	0.535	0.538	0.542	0.546
	0.000	0.049	0.098	0.145	0.189	0.229	0.264	0.292	0.314
	1.077	1.061	1.017	0.947	0.859	0.759	0.655	0.553	0.459
	3.979	3.939	3.821	3.634	3.391	3.106	2.798	2.483	2.178
0.05	1.971	1.972	1.977	1.985	1.996	2.009	2.025	2.043	2.063
	0.519	0.519	0.521	0.523	0.526	0.530	0.535	0.540	0.546
	0.000	0.051	0.102	0.150	0.195	0.235	0.269	0.296	0.315
	1.076	1.061	1.017	0.948	0.860	0.761	0.657	0.556	0.462
	3.978	3.943	3.839	3.672	3.453	3.196	2.914	2.623	2.339
0.10	1.973	1.975	1.980	1.988	1.999	2.014	2.030	2.049	2.069
	0.510	0.511	0.513	0.515	0.519	0.524	0.529	0.535	0.542
	0.000	0.053	0.105	0.155	0.200	0.240	0.275	0.302	0.320
	1.075	1.060	1.017	0.948	0.861	0.763	0.659	0.559	0.465
	3.976	3.942	3.843	3.683	3.474	3.226	2.953	2.671	2.393
0.15	1.975	1.977	1.982	1.991	2.002	2.017	2.034	2.053	2.073
	0.502	0.503	0.505	0.508	0.512	0.517	0.523	0.530	0.537
	0.000	0.054	0.108	0.158	0.205	0.245	0.280	0.306	0.324
	1.074	1.059	1.016	0.948	0.862	0.764	0.662	0.561	0.468
	3.973	3.940	3.844	3.691	3.488	3.248	2.983	2.708	2.435
0.20	1.977	1.979	1.985	1.993	2.005	2.020	2.037	2.056	2.077
	0.494	0.494	0.497	0.500	0.505	0.510	0.517	0.525	0.533
	0.000	0.056	0.110	0.162	0.209	0.250	0.284	0.311	0.328
	1.072	1.058	1.015	0.948	0.862	0.765	0.663	0.564	0.471
	3.968	3.936	3.844	3.696	3.500	3.266	3.008	2.739	2.471
0.25	1.980	1.982	1.987	1.996	2.008	2.023	2.040	2.059	2.079
	0.486	0.486	0.489	0.492	0.498	0.504	0.511	0.520	0.528
	0.000	0.057	0.112	0.165	0.213	0.254	0.288	0.315	0.331
	1.070	1.056	1.013	0.947	0.862	0.766	0.665	0.566	0.474
	3.961	3.931	3.842	3.699	3.509	3.282	3.030	2.766	2.502
0.30	1.982	1.984	1.989	1.998	2.010	2.025	2.042	2.061	2.082
	0.477	0.478	0.481	0.485	0.491	0.498	0.506	0.515	0.524
	0.000	0.058	0.115	0.168	0.216	0.258	0.292	0.318	0.334
	1.067	1.053	1.011	0.946	0.862	0.766	0.667	0.568	0.477
	3.954	3.925	3.839	3.700	3.516	3.295	3.049	2.790	2.530
0.35	1.984	1.986	1.992	2.001	2.013	2.027	2.045	2.064	2.084
	0.469	0.470	0.473	0.478	0.484	0.491	0.500	0.510	0.520
	0.000	0.059	0.117	0.171	0.219	0.262	0.296	0.321	0.337
	1.064	1.050	1.009	0.944	0.861	0.767	0.668	0.570	0.479
	3.945	3.917	3.834	3.700	3.521	3.306	3.066	2.812	2.555
0.40	1.987	1.989	1.994	2.003	2.015	2.030	2.047	2.066	2.086
	0.461	0.462	0.465	0.470	0.477	0.485	0.495	0.505	0.516
	0.000	0.060	0.118	0.173	0.223	0.265	0.299	0.324	0.339
	1.061	1.047	1.006	0.942	0.860	0.767	0.669	0.572	0.482
	3.935	3.908	3.828	3.698	3.525	3.316	3.081	2.832	2.578
0.45	1.989	1.991	1.996	2.005	2.017	2.032	2.049	2.068	2.088
	0.453	0.454	0.458	0.463	0.470	0.479	0.489	0.501	0.512
	0.000	0.061	0.120	0.176	0.226	0.268	0.302	0.327	0.342
	1.056	1.043	1.002	0.939	0.859	0.766	0.670	0.574	0.484
	3.924	3.898	3.820	3.695	3.527	3.324	3.095	2.850	2.600
0.50	1.991	1.993	1.999	2.007	2.019	2.034	2.051	2.069	2.089
	0.445	0.447	0.450	0.456	0.464	0.473	0.484	0.496	0.508
	0.000	0.062	0.122	0.178	0.229	0.271	0.305	0.330	0.344
	1.052	1.038	0.999	0.936	0.857	0.766	0.670	0.575	0.486
	3.911	3.886	3.811	3.690	3.528	3.330	3.107	2.866	2.619

$$M_{\infty} = 6, \beta_K = 15^\circ, \alpha = 10^\circ$$

ξ	θ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.55	1.994 0.437 0.000 1.047 3.898	1.996 0.439 0.063 1.033 3.874	2.001 0.442 0.124 0.994 3.802	2.010 0.449 0.181 0.933 3.684	2.021 0.457 0.231 0.855 3.527	2.036 0.467 0.274 0.765 3.335	2.053 0.479 0.308 0.671 3.117	2.071 0.492 0.332 0.577 2.882	2.091 0.505 0.345 0.488 2.638
0.60	1.996 0.429 0.000 1.041 3.883	1.998 0.431 0.064 1.028 3.860	2.003 0.435 0.125 0.990 3.790	2.012 0.442 0.183 0.930 3.678	2.024 0.451 0.234 0.852 3.525	2.038 0.462 0.277 0.764 3.339	2.054 0.474 0.311 0.671 3.127	2.073 0.488 0.335 0.578 2.895	2.092 0.502 0.347 0.490 2.655
0.65	1.999 0.422 0.000 1.035 3.867	2.000 0.423 0.064 1.022 3.844	2.006 0.427 0.127 0.985 3.778	2.014 0.434 0.185 0.926 3.669	2.026 0.444 0.237 0.850 3.522	2.040 0.456 0.280 0.763 3.342	2.056 0.469 0.314 0.671 3.135	2.074 0.484 0.337 0.579 2.908	2.093 0.498 0.348 0.492 2.671
0.70	2.001 0.414 0.000 1.029 3.850	2.003 0.415 0.065 1.016 3.828	2.008 0.420 0.129 0.979 3.764	2.016 0.427 0.187 0.921 3.660	2.028 0.438 0.239 0.847 3.518	2.042 0.450 0.283 0.761 3.343	2.058 0.464 0.316 0.671 3.142	2.076 0.480 0.339 0.580 2.920	2.095 0.495 0.350 0.494 2.686
0.75	2.003 0.406 0.000 1.022 3.831	2.005 0.407 0.066 1.010 3.811	2.010 0.412 0.130 0.974 3.749	2.019 0.420 0.189 0.917 3.649	2.030 0.431 0.242 0.844 3.513	2.044 0.445 0.285 0.759 3.344	2.059 0.460 0.319 0.670 3.147	2.077 0.476 0.341 0.581 2.930	2.096 0.492 0.351 0.496 2.700
0.80	2.006 0.398 0.000 1.015 3.811	2.008 0.399 0.067 1.003 3.792	2.013 0.405 0.132 0.967 3.733	2.021 0.413 0.192 0.912 3.637	2.032 0.425 0.244 0.840 3.506	2.045 0.439 0.288 0.757 3.343	2.061 0.455 0.321 0.669 3.152	2.078 0.472 0.343 0.581 2.940	2.097 0.489 0.352 0.497 2.713
0.85	2.008 0.390 0.000 1.007 3.790	2.010 0.392 0.068 0.995 3.772	2.015 0.397 0.133 0.961 3.716	2.023 0.406 0.194 0.906 3.624	2.034 0.419 0.247 0.836 3.498	2.047 0.433 0.290 0.755 3.341	2.063 0.450 0.323 0.669 3.156	2.080 0.468 0.345 0.582 2.946	2.098 0.486 0.354 0.498 2.725
0.90	2.011 0.382 0.000 0.999 3.768	2.013 0.384 0.068 0.987 3.750	2.018 0.390 0.135 0.954 3.697	2.025 0.399 0.196 0.900 3.610	2.036 0.412 0.249 0.832 3.489	2.049 0.428 0.293 0.752 3.338	2.064 0.446 0.326 0.668 3.159	2.081 0.465 0.346 0.582 2.956	2.099 0.484 0.355 0.500 2.736
0.95	2.014 0.374 0.000 0.990 3.744	2.015 0.376 0.069 0.979 3.727	2.020 0.382 0.136 0.946 3.677	2.028 0.392 0.198 0.894 3.594	2.038 0.406 0.251 0.827 3.479	2.051 0.422 0.295 0.749 3.334	2.066 0.441 0.328 0.666 3.160	2.082 0.461 0.348 0.582 2.963	2.100 0.481 0.356 0.501 2.747
1.00	2.016 0.365 0.000 0.981 3.719	2.018 0.368 0.070 0.970 3.703	2.023 0.374 0.137 0.938 3.656	2.030 0.385 0.199 0.888 3.577	2.040 0.399 0.254 0.822 3.468	2.053 0.417 0.298 0.746 3.328	2.067 0.437 0.330 0.665 3.161	2.083 0.457 0.350 0.582 2.969	2.100 0.478 0.357 0.502 2.757
F_x	0.329	0.329	0.330	0.332	0.334	0.337	0.341	0.346	0.351

$$M_{\infty} = 6, \beta_{\kappa} = 15^{\circ}, \alpha = 10^{\circ}$$

ξ	θ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.00	2.056	2.073	2.090	2.106	2.120	2.131	2.137	2.200	2.139
	0.551	0.555	0.560	0.564	0.568	0.571	0.572	0.589	0.573
	0.328	0.331	0.321	0.293	0.243	0.166	0.079	0.000	0.000
	0.377	0.309	0.255	0.218	0.195	0.184	0.180	0.180	0.180
0.05	1.897	1.650	1.448	1.299	1.205	1.160	1.144	1.502	1.140
	2.083	2.105	2.126	2.147	2.166	2.183	2.196	2.201	
	0.552	0.558	0.564	0.570	0.576	0.581	0.584	0.585	
	0.326	0.326	0.313	0.284	0.234	0.166	0.087	0.000	
0.10	0.380	0.312	0.258	0.220	0.197	0.185	0.181	0.179	
	2.074	1.841	1.652	1.518	1.448	1.444	1.480	1.502	
	2.090	2.112	2.133	2.154	2.173	2.188	2.198	2.202	
	0.548	0.555	0.561	0.567	0.573	0.578	0.581	0.582	
0.15	0.330	0.329	0.315	0.285	0.237	0.170	0.090	0.000	
	0.383	0.315	0.261	0.222	0.198	0.186	0.181	0.179	
	2.133	1.903	1.713	1.577	1.502	1.484	1.494	1.501	
	2.094	2.116	2.138	2.158	2.177	2.191	2.199	2.202	
0.20	0.544	0.552	0.558	0.564	0.570	0.575	0.578	0.579	
	0.333	0.331	0.317	0.287	0.239	0.172	0.090	0.000	
	0.386	0.318	0.264	0.224	0.200	0.186	0.181	0.179	
	2.178	1.949	1.758	1.618	1.535	1.504	1.500	1.500	
0.25	2.098	2.120	2.141	2.161	2.179	2.192	2.200	2.203	
	0.541	0.548	0.555	0.561	0.567	0.572	0.576	0.577	
	0.336	0.333	0.318	0.288	0.239	0.172	0.090	0.000	
	0.390	0.321	0.266	0.226	0.201	0.187	0.181	0.179	
0.30	2.216	1.987	1.794	1.649	1.558	1.516	1.502	1.499	
	2.101	2.122	2.144	2.164	2.181	2.194	2.201	2.204	
	0.537	0.545	0.552	0.558	0.564	0.569	0.573	0.574	
	0.339	0.335	0.319	0.288	0.239	0.171	0.089	0.000	
0.35	0.393	0.324	0.269	0.228	0.202	0.188	0.181	0.179	
	2.249	2.020	1.825	1.674	1.576	1.525	1.504	1.497	
	2.103	2.125	2.146	2.165	2.182	2.195	2.202	2.204	
	0.533	0.542	0.549	0.555	0.561	0.566	0.570	0.572	
0.40	0.341	0.336	0.319	0.287	0.238	0.170	0.089	0.000	
	0.396	0.327	0.271	0.230	0.203	0.188	0.181	0.178	
	2.279	2.050	1.852	1.696	1.590	1.531	1.504	1.495	
	2.105	2.126	2.147	2.167	2.183	2.196	2.203	2.205	
0.45	0.530	0.539	0.546	0.553	0.558	0.564	0.568	0.570	
	0.342	0.337	0.319	0.286	0.237	0.169	0.088	0.000	
	0.398	0.330	0.274	0.232	0.204	0.188	0.180	0.178	
	2.306	2.077	1.876	1.715	1.602	1.536	1.503	1.492	
0.50	2.107	2.128	2.149	2.168	2.184	2.197	2.204	2.206	
	0.526	0.536	0.544	0.550	0.556	0.561	0.565	0.567	
	0.344	0.337	0.318	0.285	0.235	0.167	0.087	0.000	
	0.401	0.332	0.276	0.234	0.205	0.188	0.180	0.177	
0.55	2.331	2.101	1.898	1.732	1.612	1.539	1.502	1.490	
	2.108	2.129	2.150	2.169	2.185	2.197	2.204	2.207	
	0.523	0.533	0.541	0.548	0.553	0.558	0.563	0.564	
	0.345	0.337	0.317	0.283	0.233	0.166	0.086	0.000	
0.60	0.404	0.335	0.279	0.236	0.206	0.189	0.180	0.177	
	2.354	2.124	1.917	1.747	1.621	1.541	1.500	1.486	
	2.110	2.131	2.151	2.170	2.186	2.198	2.205	2.208	
	0.520	0.531	0.539	0.545	0.551	0.556	0.560	0.562	
0.65	0.346	0.337	0.316	0.282	0.231	0.164	0.085	0.000	
	0.406	0.337	0.281	0.238	0.207	0.189	0.179	0.176	
	2.375	2.144	1.936	1.760	1.628	1.543	1.497	1.482	

$$M_{\infty} = 6, \beta_{\kappa} = 15^{\circ}, \alpha = 10^{\circ}$$

ξ	θ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.55	2.111 0.517 0.347 0.409 2.395	2.132 0.528 0.337 0.340 2.164	2.152 0.537 0.315 0.283 1.953	2.171 0.543 0.280 0.239 1.773	2.187 0.549 0.229 0.208 1.635	2.199 0.553 0.162 0.189 1.544	2.206 0.557 0.084 0.179 1.494	2.209 0.559 0.000 0.175 1.478	
0.60	2.112 0.515 0.348 0.411 2.414	2.133 0.526 0.337 0.342 2.182	2.153 0.535 0.314 0.285 1.969	2.172 0.542 0.278 0.241 1.784	2.188 0.546 0.227 0.209 1.640	2.200 0.551 0.160 0.189 1.544	2.207 0.555 0.083 0.178 1.490	2.210 0.556 0.000 0.175 1.473	
0.65	2.113 0.512 0.348 0.413 2.432	2.134 0.524 0.337 0.345 2.199	2.153 0.533 0.313 0.288 1.983	2.172 0.540 0.276 0.242 1.795	2.189 0.544 0.224 0.209 1.645	2.201 0.548 0.158 0.188 1.543	2.208 0.552 0.082 0.177 1.486	2.211 0.553 0.000 0.174 1.467	
0.70	2.114 0.510 0.349 0.416 2.448	2.134 0.522 0.336 0.347 2.216	2.154 0.532 0.311 0.290 1.998	2.173 0.538 0.273 0.244 1.805	2.189 0.542 0.222 0.210 1.650	2.202 0.546 0.157 0.188 1.542	2.209 0.549 0.081 0.176 1.481	2.212 0.550 0.000 0.173 1.461	
0.75	2.115 0.507 0.349 0.418 2.464	2.135 0.520 0.336 0.349 2.231	2.155 0.530 0.310 0.292 2.011	2.173 0.537 0.271 0.245 1.814	2.190 0.540 0.220 0.211 1.654	2.203 0.543 0.155 0.188 1.540	2.210 0.545 0.080 0.175 1.475	2.213 0.547 0.000 0.171 1.453	
0.80	2.116 0.505 0.350 0.420 2.479	2.136 0.519 0.335 0.352 2.246	2.155 0.529 0.308 0.294 2.024	2.174 0.535 0.269 0.246 1.823	2.191 0.539 0.217 0.211 1.657	2.204 0.540 0.153 0.187 1.537	2.212 0.542 0.079 0.174 1.468	2.214 0.543 0.000 0.170 1.445	
0.85	2.117 0.503 0.350 0.422 2.493	2.136 0.517 0.334 0.354 2.260	2.155 0.528 0.306 0.296 2.036	2.174 0.534 0.267 0.248 1.831	2.191 0.537 0.215 0.212 1.660	2.205 0.538 0.151 0.187 1.534	2.213 0.538 0.078 0.173 1.459	2.216 0.539 0.000 0.168 1.435	
0.90	2.117 0.501 0.350 0.424 2.506	2.137 0.516 0.333 0.356 2.274	2.156 0.527 0.305 0.297 2.048	2.175 0.533 0.264 0.249 1.839	2.192 0.535 0.212 0.212 1.662	2.206 0.535 0.149 0.186 1.530	2.214 0.535 0.077 0.171 1.450	2.217 0.535 0.000 0.167 1.424	
0.95	2.118 0.499 0.350 0.426 2.519	2.137 0.515 0.333 0.358 2.287	2.156 0.526 0.303 0.299 2.059	2.175 0.532 0.262 0.251 1.847	2.192 0.533 0.210 0.212 1.665	2.207 0.532 0.147 0.185 1.525	2.216 0.530 0.075 0.169 1.438	2.219 0.530 0.000 0.164 1.410	
1.00	2.119 0.497 0.350 0.427 2.531	2.137 0.513 0.332 0.360 2.299	2.156 0.525 0.301 0.301 2.070	2.175 0.531 0.260 0.252 1.855	2.193 0.532 0.207 0.213 1.667	2.208 0.529 0.144 0.184 1.519	2.218 0.525 0.074 0.167 1.424	2.221 0.524 0.000 0.161 1.392	
F_x	0.358	0.365	0.372	0.379	0.385	0.390	0.393	0.393	

$$M_{\infty} = 6, \beta_{\kappa} = 20^{\circ}, \alpha = 5^{\circ}$$

ξ	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.00	1.907	1.908	1.910	1.914	1.919	1.925	1.931	1.939	1.947
	0.694	0.694	0.695	0.696	0.698	0.700	0.703	0.705	0.708
	0.000	0.023	0.046	0.067	0.087	0.103	0.116	0.126	0.130
	1.100	1.093	1.071	1.037	0.992	0.939	0.881	0.821	0.762
	3.998	3.979	3.924	3.834	3.715	3.573	3.415	3.249	3.082
0.05	1.910	1.911	1.915	1.921	1.929	1.939	1.950	1.963	1.977
	0.686	0.687	0.688	0.690	0.694	0.697	0.702	0.706	0.712
	0.000	0.025	0.050	0.073	0.094	0.112	0.126	0.135	0.140
	1.100	1.093	1.071	1.037	0.992	0.939	0.881	0.821	0.762
	3.998	3.983	3.941	3.874	3.784	3.678	3.559	3.436	3.314
0.10	1.913	1.914	1.918	1.924	1.932	1.942	1.954	1.967	1.981
	0.679	0.679	0.681	0.683	0.687	0.691	0.695	0.700	0.706
	0.000	0.027	0.053	0.077	0.099	0.118	0.133	0.143	0.148
	1.099	1.092	1.071	1.036	0.992	0.939	0.881	0.821	0.762
	3.996	3.982	3.942	3.877	3.791	3.689	3.574	3.454	3.334
0.15	1.916	1.917	1.921	1.927	1.935	1.946	1.958	1.971	1.985
	0.672	0.672	0.674	0.676	0.680	0.684	0.689	0.694	0.699
	0.000	0.028	0.055	0.080	0.103	0.123	0.138	0.149	0.154
	1.098	1.091	1.070	1.036	0.991	0.938	0.881	0.821	0.762
	3.993	3.979	3.940	3.878	3.795	3.695	3.583	3.466	3.347
0.20	1.918	1.920	1.924	1.930	1.938	1.949	1.961	1.974	1.988
	0.664	0.665	0.666	0.669	0.673	0.677	0.682	0.687	0.693
	0.000	0.029	0.057	0.083	0.107	0.127	0.142	0.153	0.159
	1.096	1.089	1.068	1.034	0.990	0.937	0.880	0.820	0.762
	3.988	3.975	3.938	3.877	3.796	3.698	3.589	3.473	3.356
0.25	1.921	1.923	1.926	1.933	1.941	1.951	1.963	1.977	1.991
	0.657	0.658	0.659	0.662	0.666	0.670	0.675	0.681	0.687
	0.000	0.030	0.058	0.086	0.110	0.130	0.146	0.157	0.163
	1.094	1.087	1.066	1.032	0.988	0.936	0.879	0.820	0.761
	3.982	3.970	3.933	3.874	3.795	3.699	3.592	3.477	3.361
0.30	1.924	1.925	1.929	1.935	1.944	1.954	1.966	1.979	1.993
	0.650	0.650	0.652	0.655	0.659	0.664	0.669	0.675	0.681
	0.000	0.030	0.060	0.088	0.112	0.133	0.150	0.161	0.166
	1.092	1.085	1.064	1.030	0.986	0.935	0.878	0.818	0.760
	3.976	3.963	3.928	3.870	3.792	3.699	3.593	3.480	3.365
0.35	1.927	1.928	1.932	1.938	1.947	1.957	1.969	1.982	1.996
	0.643	0.643	0.645	0.648	0.652	0.657	0.663	0.669	0.675
	0.000	0.031	0.061	0.090	0.115	0.136	0.153	0.164	0.169
	1.089	1.082	1.061	1.028	0.984	0.933	0.876	0.817	0.759
	3.968	3.956	3.921	3.864	3.788	3.697	3.593	3.481	3.366
0.40	1.930	1.931	1.935	1.941	1.949	1.960	1.972	1.985	1.998
	0.635	0.636	0.638	0.641	0.645	0.651	0.656	0.663	0.669
	0.000	0.032	0.063	0.091	0.117	0.139	0.156	0.167	0.172
	1.085	1.078	1.058	1.025	0.982	0.930	0.874	0.815	0.757
	3.959	3.947	3.913	3.858	3.783	3.693	3.591	3.480	3.366
0.45	1.932	1.934	1.937	1.944	1.952	1.962	1.974	1.987	2.001
	0.628	0.629	0.631	0.634	0.639	0.644	0.650	0.657	0.663
	0.000	0.032	0.064	0.093	0.119	0.141	0.158	0.170	0.175
	1.082	1.075	1.054	1.022	0.979	0.928	0.872	0.813	0.755
	3.948	3.937	3.904	3.850	3.777	3.688	3.587	3.478	3.365
0.50	1.935	1.936	1.940	1.946	1.955	1.965	1.977	1.990	2.003
	0.621	0.622	0.624	0.628	0.632	0.638	0.644	0.651	0.657
	0.000	0.033	0.065	0.095	0.121	0.143	0.160	0.172	0.177
	1.077	1.070	1.050	1.018	0.975	0.925	0.869	0.811	0.753
	3.937	3.926	3.894	3.841	3.769	3.682	3.583	3.475	3.362

$$M_{\infty} = 6, \beta_K = 20^\circ, \alpha = 5^\circ$$

ξ	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.55	1.938 0.614 0.000 1.073 3.925	1.939 0.615 0.033 1.066 3.914	1.943 0.617 0.066 1.046 3.882	1.949 0.621 0.096 1.014 3.830	1.957 0.626 0.123 0.971 3.761	1.968 0.631 0.145 0.921 3.675	1.979 0.638 0.163 0.866 3.577	1.992 0.645 0.174 0.808 3.470	2.006 0.652 0.179 0.751 3.358
0.60	1.941 0.607 0.000 1.068 3.911	1.942 0.608 0.034 1.061 3.901	1.946 0.610 0.067 1.041 3.870	1.952 0.614 0.097 1.009 3.819	1.960 0.619 0.124 0.967 3.751	1.970 0.625 0.147 0.918 3.667	1.982 0.632 0.165 0.863 3.570	1.995 0.639 0.176 0.806 3.464	2.008 0.646 0.181 0.749 3.353
0.65	1.944 0.600 0.000 1.062 3.897	1.945 0.601 0.034 1.056 3.886	1.949 0.604 0.068 1.036 3.856	1.955 0.607 0.099 1.004 3.807	1.963 0.613 0.126 0.963 3.740	1.973 0.619 0.149 0.914 3.657	1.984 0.626 0.166 0.859 3.562	1.997 0.633 0.178 0.803 3.458	2.011 0.641 0.183 0.746 3.347
0.70	1.946 0.593 0.000 1.056 3.881	1.948 0.594 0.035 1.050 3.871	1.951 0.597 0.068 1.030 3.842	1.957 0.601 0.100 0.999 3.793	1.966 0.606 0.127 0.958 3.728	1.976 0.612 0.151 0.910 3.647	1.987 0.620 0.168 0.856 3.553	2.000 0.627 0.180 0.799 3.450	2.013 0.635 0.185 0.743 3.340
0.75	1.949 0.586 0.000 1.050 3.864	1.951 0.587 0.035 1.044 3.855	1.954 0.590 0.069 1.024 3.826	1.960 0.594 0.101 0.994 3.779	1.968 0.600 0.129 0.953 3.715	1.978 0.606 0.152 0.905 3.635	1.990 0.614 0.170 0.852 3.543	2.002 0.621 0.181 0.796 3.441	2.015 0.629 0.186 0.739 3.332
0.80	1.952 0.580 0.000 1.043 3.846	1.953 0.580 0.035 1.037 3.837	1.957 0.583 0.070 1.018 3.809	1.963 0.587 0.102 0.988 3.763	1.971 0.593 0.130 0.948 3.700	1.981 0.600 0.154 0.900 3.623	1.992 0.608 0.171 0.847 3.532	2.005 0.616 0.183 0.792 3.431	2.018 0.624 0.188 0.736 3.323
0.85	1.955 0.573 0.000 1.036 3.827	1.956 0.573 0.036 1.030 3.818	1.960 0.576 0.071 1.011 3.791	1.966 0.581 0.103 0.981 3.746	1.974 0.587 0.131 0.942 3.685	1.983 0.594 0.155 0.895 3.609	1.995 0.602 0.173 0.842 3.519	2.007 0.610 0.184 0.787 3.419	2.020 0.618 0.189 0.732 3.312
0.90	1.958 0.566 0.000 1.029 3.807	1.959 0.566 0.036 1.023 3.798	1.963 0.569 0.071 1.004 3.772	1.969 0.574 0.104 0.975 3.728	1.977 0.580 0.133 0.936 3.669	1.986 0.587 0.156 0.889 3.594	1.997 0.596 0.174 0.837 3.506	2.010 0.604 0.186 0.783 3.407	2.022 0.613 0.190 0.728 3.301
0.95	1.961 0.558 0.000 1.021 3.786	1.962 0.559 0.037 1.015 3.777	1.966 0.562 0.072 0.997 3.752	1.972 0.567 0.105 0.968 3.709	1.979 0.574 0.134 0.929 3.651	1.989 0.581 0.158 0.883 3.578	2.000 0.590 0.176 0.832 3.491	2.012 0.598 0.187 0.778 3.394	2.025 0.607 0.191 0.724 3.288
1.00	1.964 0.551 0.000 1.012 3.763	1.965 0.552 0.037 1.006 3.755	1.969 0.555 0.073 0.989 3.730	1.975 0.560 0.106 0.960 3.689	1.982 0.567 0.135 0.922 3.632	1.992 0.575 0.159 0.877 3.560	2.002 0.584 0.177 0.826 3.476	2.014 0.593 0.188 0.773 3.379	2.027 0.602 0.192 0.719 3.275
F_x	0.439	0.439	0.439	0.440	0.440	0.441	0.442	0.443	0.444

$$M_{\infty} = 6, \beta_{\kappa} = 20^{\circ}, \alpha = 5^{\circ}$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.00	1.956	1.964	1.972	1.979	1.985	1.989	1.992	2.055	1.992
	0.712	0.715	0.717	0.720	0.722	0.724	0.725	0.748	0.725
	0.130	0.125	0.114	0.098	0.077	0.053	0.027	0.000	0.000
	0.706	0.655	0.611	0.575	0.547	0.528	0.516	0.512	0.512
0.05	2.921	2.772	2.640	2.530	2.443	2.381	2.344	2.841	2.331
	1.991	2.006	2.019	2.032	2.042	2.050	2.055	2.057	
	0.739	0.722	0.727	0.732	0.736	0.739	0.741	0.741	
	0.140	0.134	0.122	0.106	0.084	0.058	0.030	0.000	
0.10	0.706	0.650	0.612	0.576	0.548	0.528	0.516	0.512	
	3.198	3.096	3.009	2.942	2.894	2.862	2.845	2.840	
	1.996	2.010	2.023	2.035	2.045	2.053	2.058	2.059	
	0.711	0.716	0.721	0.726	0.730	0.733	0.734	0.735	
0.15	0.148	0.142	0.130	0.112	0.089	0.062	0.032	0.000	
	0.706	0.656	0.612	0.575	0.547	0.527	0.515	0.511	
	3.220	3.117	3.028	2.957	2.903	2.866	2.845	2.838	
	1.999	2.013	2.026	2.038	2.048	2.055	2.060	2.062	
0.20	0.705	0.710	0.716	0.720	0.724	0.727	0.729	0.729	
	0.153	0.147	0.135	0.117	0.093	0.065	0.033	0.000	
	0.706	0.656	0.612	0.575	0.547	0.527	0.515	0.511	
	3.233	3.129	3.039	2.964	2.907	2.867	2.843	2.836	
0.25	2.002	2.016	2.029	2.041	2.050	2.058	2.062	2.064	
	0.699	0.705	0.710	0.714	0.718	0.721	0.723	0.723	
	0.158	0.152	0.139	0.120	0.096	0.067	0.034	0.000	
	0.706	0.655	0.611	0.575	0.546	0.526	0.514	0.510	
0.30	3.242	3.137	3.045	2.968	2.908	2.866	2.840	2.832	
	2.005	2.019	2.032	2.043	2.053	2.060	2.064	2.066	
	0.693	0.699	0.704	0.709	0.712	0.715	0.717	0.718	
	0.162	0.155	0.142	0.123	0.098	0.068	0.035	0.000	
0.35	0.705	0.654	0.610	0.574	0.545	0.525	0.513	0.509	
	3.248	3.143	3.049	2.970	2.908	2.863	2.836	2.827	
	2.007	2.021	2.034	2.045	2.055	2.062	2.066	2.068	
	0.687	0.693	0.698	0.703	0.707	0.710	0.712	0.712	
0.40	0.166	0.159	0.145	0.125	0.100	0.069	0.035	0.000	
	0.704	0.654	0.609	0.573	0.544	0.524	0.511	0.507	
	3.252	3.146	3.051	2.970	2.906	2.859	2.831	2.822	
	2.010	2.024	2.036	2.048	2.057	2.064	2.069	2.070	
0.45	0.681	0.687	0.693	0.698	0.701	0.704	0.706	0.707	
	0.169	0.161	0.147	0.127	0.101	0.070	0.036	0.000	
	0.703	0.653	0.608	0.572	0.543	0.522	0.510	0.506	
	3.253	3.147	3.051	2.968	2.902	2.854	2.825	2.815	
0.50	2.012	2.026	2.039	2.050	2.059	2.066	2.071	2.072	
	0.676	0.682	0.687	0.692	0.696	0.699	0.701	0.702	
	0.171	0.164	0.150	0.129	0.102	0.071	0.036	0.000	
	0.702	0.651	0.607	0.570	0.541	0.521	0.508	0.504	
0.55	3.253	3.146	3.049	2.966	2.898	2.848	2.818	2.808	
	2.015	2.028	2.041	2.052	2.062	2.068	2.073	2.074	
	0.670	0.676	0.682	0.687	0.691	0.694	0.696	0.696	
	0.174	0.166	0.151	0.130	0.104	0.072	0.037	0.000	
0.60	0.700	0.650	0.605	0.568	0.539	0.519	0.506	0.502	
	3.252	3.145	3.047	2.961	2.892	2.842	2.811	2.800	
	2.017	2.031	2.043	2.054	2.064	2.071	2.075	2.076	
	0.664	0.671	0.676	0.681	0.686	0.689	0.691	0.691	
0.65	0.176	0.168	0.153	0.132	0.104	0.072	0.037	0.000	
	0.698	0.648	0.604	0.567	0.537	0.517	0.504	0.500	
	3.250	3.142	3.043	2.956	2.886	2.834	2.802	2.791	

$$M_{\infty} = 6, \beta_K = 20^\circ, \alpha = 5^\circ$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.55	2.020	2.033	2.045	2.057	2.066	2.073	2.077	2.078	
	0.659	0.665	0.671	0.676	0.680	0.683	0.685	0.686	
	0.178	0.169	0.154	0.133	0.105	0.073	0.037	0.000	
	0.696	0.646	0.602	0.564	0.535	0.514	0.502	0.498	
	3.246	3.138	3.038	2.950	2.879	2.825	2.793	2.782	
0.60	2.022	2.035	2.048	2.059	2.068	2.075	2.079	2.080	
	0.653	0.660	0.666	0.671	0.675	0.678	0.680	0.681	
	0.180	0.171	0.156	0.134	0.106	0.073	0.037	0.000	
	0.694	0.644	0.599	0.562	0.533	0.512	0.499	0.495	
	3.241	3.133	3.032	2.943	2.870	2.816	2.783	2.771	
0.65	2.024	2.037	2.050	2.061	2.070	2.077	2.081	2.083	
	0.648	0.655	0.661	0.666	0.670	0.673	0.675	0.676	
	0.181	0.172	0.157	0.134	0.106	0.074	0.038	0.000	
	0.691	0.641	0.597	0.560	0.530	0.509	0.497	0.492	
	3.235	3.126	3.025	2.935	2.861	2.806	2.772	2.760	
0.70	2.026	2.040	2.052	2.063	2.072	2.079	2.083	2.085	
	0.642	0.649	0.656	0.661	0.665	0.668	0.670	0.671	
	0.183	0.174	0.158	0.135	0.107	0.074	0.038	0.000	
	0.688	0.638	0.594	0.557	0.528	0.506	0.494	0.489	
	3.228	3.119	3.017	2.926	2.851	2.795	2.760	2.748	
0.75	2.029	2.042	2.054	2.065	2.074	2.081	2.085	2.087	
	0.637	0.644	0.650	0.656	0.660	0.663	0.665	0.666	
	0.184	0.175	0.158	0.136	0.107	0.074	0.038	0.000	
	0.685	0.636	0.591	0.554	0.525	0.503	0.490	0.486	
	3.221	3.111	3.008	2.916	2.840	2.783	2.747	2.735	
0.80	2.031	2.044	2.056	2.067	2.076	2.083	2.088	2.089	
	0.632	0.639	0.645	0.651	0.655	0.658	0.660	0.660	
	0.185	0.176	0.159	0.136	0.108	0.074	0.038	0.000	
	0.682	0.632	0.588	0.551	0.521	0.500	0.487	0.483	
	3.212	3.102	2.998	2.905	2.828	2.770	2.734	2.721	
0.85	2.033	2.046	2.059	2.070	2.079	2.086	2.090	2.091	
	0.626	0.634	0.640	0.646	0.650	0.653	0.655	0.655	
	0.186	0.177	0.160	0.137	0.108	0.075	0.038	0.000	
	0.679	0.629	0.585	0.548	0.518	0.497	0.484	0.479	
	3.202	3.092	2.987	2.894	2.815	2.756	2.719	2.707	
0.90	2.036	2.049	2.061	2.072	2.081	2.088	2.092	2.093	
	0.621	0.629	0.635	0.640	0.645	0.648	0.649	0.650	
	0.187	0.177	0.161	0.137	0.108	0.075	0.038	0.000	
	0.675	0.626	0.582	0.544	0.514	0.493	0.480	0.475	
	3.191	3.081	2.976	2.881	2.801	2.741	2.704	2.691	
0.95	2.038	2.051	2.063	2.074	2.083	2.090	2.094	2.096	
	0.616	0.623	0.630	0.635	0.639	0.642	0.644	0.645	
	0.188	0.178	0.161	0.138	0.108	0.075	0.038	0.000	
	0.671	0.622	0.578	0.540	0.511	0.489	0.476	0.471	
	3.179	3.068	2.963	2.867	2.786	2.725	2.687	2.674	
1.00	2.040	2.053	2.065	2.076	2.085	2.092	2.097	2.098	
	0.610	0.618	0.625	0.630	0.634	0.637	0.639	0.639	
	0.189	0.179	0.162	0.138	0.109	0.075	0.038	0.000	
	0.667	0.618	0.574	0.536	0.506	0.485	0.471	0.467	
	3.165	3.055	2.949	2.852	2.770	2.708	2.669	2.656	
F_x	0.445	0.446	0.447	0.447	0.448	0.448	0.448	0.448	

$$M_{\infty} = 6, \beta_K = 20^{\circ}, \alpha = 10^{\circ}$$

γ	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.00	1.809 0.658 0.000 1.473 4.411	1.811 0.659 0.045 1.455 4.374	1.815 0.660 0.091 1.403 4.263	1.822 0.663 0.133 1.322 4.085	1.832 0.666 0.173 1.217 3.853	1.844 0.671 0.209 1.097 3.579	1.858 0.676 0.239 0.970 3.279	1.875 0.682 0.262 0.843 2.970	1.892 0.689 0.278 0.724 2.666
0.05	1.812 0.650 0.000 1.472 4.411	1.814 0.651 0.049 1.455 4.379	1.821 0.653 0.097 1.403 4.287	1.831 0.657 0.142 1.322 4.139	1.845 0.663 0.183 1.218 3.943	1.863 0.669 0.219 1.098 3.711	1.884 0.677 0.249 0.971 3.455	1.908 0.686 0.271 0.845 3.190	1.933 0.696 0.285 0.726 2.928
0.10	1.815 0.642 0.000 1.471 4.409	1.817 0.642 0.051 1.454 4.379	1.824 0.645 0.101 1.403 4.292	1.835 0.650 0.148 1.322 4.151	1.850 0.656 0.191 1.219 3.965	1.869 0.663 0.228 1.100 3.744	1.891 0.672 0.258 0.973 3.499	1.915 0.682 0.281 0.847 3.243	1.941 0.691 0.295 0.728 2.990
0.15	1.818 0.633 0.000 1.470 4.405	1.821 0.634 0.053 1.453 4.377	1.828 0.637 0.105 1.402 4.294	1.839 0.642 0.153 1.322 4.159	1.854 0.649 0.198 1.219 3.981	1.873 0.657 0.236 1.100 3.768	1.896 0.666 0.267 0.975 3.531	1.920 0.676 0.290 0.849 3.282	1.947 0.687 0.304 0.730 3.035
0.20	1.821 0.625 0.000 1.468 4.401	1.824 0.626 0.055 1.451 4.374	1.831 0.629 0.108 1.400 4.293	1.842 0.635 0.158 1.321 4.164	1.858 0.642 0.204 1.219 3.992	1.877 0.650 0.243 1.101 3.786	1.900 0.660 0.274 0.976 3.557	1.925 0.671 0.297 0.851 3.314	1.952 0.683 0.311 0.732 3.072
0.25	1.824 0.617 0.000 1.465 4.395	1.827 0.618 0.056 1.448 4.369	1.834 0.621 0.111 1.398 4.292	1.846 0.627 0.163 1.319 4.167	1.861 0.634 0.209 1.218 4.001	1.881 0.644 0.249 1.101 3.802	1.904 0.654 0.281 0.977 3.578	1.929 0.666 0.304 0.852 3.342	1.956 0.678 0.318 0.734 3.103
0.30	1.828 0.609 0.000 1.462 4.387	1.830 0.610 0.058 1.445 4.363	1.837 0.614 0.114 1.396 4.288	1.849 0.620 0.167 1.317 4.168	1.865 0.627 0.214 1.217 4.008	1.884 0.637 0.255 1.101 3.814	1.907 0.648 0.287 0.977 3.597	1.932 0.660 0.311 0.854 3.365	1.959 0.673 0.324 0.736 3.130
0.35	1.831 0.601 0.000 1.458 4.379	1.833 0.602 0.059 1.441 4.355	1.840 0.606 0.117 1.392 4.284	1.852 0.612 0.170 1.315 4.168	1.868 0.620 0.219 1.215 4.013	1.888 0.631 0.260 1.101 3.825	1.910 0.642 0.293 0.978 3.613	1.936 0.655 0.317 0.855 3.386	1.962 0.668 0.330 0.738 3.155
0.40	1.834 0.593 0.000 1.454 4.369	1.836 0.594 0.060 1.437 4.346	1.844 0.598 0.119 1.389 4.277	1.855 0.605 0.174 1.312 4.166	1.871 0.614 0.223 1.214 4.016	1.891 0.624 0.265 1.100 3.834	1.913 0.637 0.298 0.978 3.628	1.939 0.650 0.322 0.856 3.405	1.965 0.663 0.335 0.739 3.177
0.45	1.837 0.585 0.000 1.449 4.358	1.839 0.586 0.062 1.432 4.336	1.847 0.590 0.122 1.384 4.270	1.858 0.597 0.177 1.309 4.162	1.874 0.607 0.227 1.211 4.018	1.894 0.618 0.270 1.099 3.841	1.916 0.631 0.303 0.978 3.640	1.941 0.645 0.327 0.857 3.422	1.968 0.659 0.340 0.741 3.197
0.50	1.840 0.577 0.000 1.443 4.346	1.843 0.578 0.063 1.427 4.325	1.850 0.583 0.124 1.380 4.261	1.861 0.590 0.181 1.305 4.158	1.877 0.600 0.231 1.209 4.018	1.897 0.612 0.274 1.097 3.847	1.919 0.625 0.308 0.978 3.651	1.944 0.640 0.332 0.857 3.437	1.970 0.654 0.344 0.742 3.215

$$M_{\infty} = 6, \beta_K = 20^\circ, \alpha = 10^\circ$$

ξ	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.55	1.843	1.846	1.853	1.865	1.880	1.900	1.922	1.946	1.973
	0.569	0.570	0.575	0.583	0.593	0.606	0.620	0.635	0.650
	0.000	0.064	0.126	0.184	0.235	0.279	0.313	0.336	0.348
	1.437	1.421	1.375	1.301	1.206	1.095	0.977	0.858	0.743
	4.333	4.313	4.251	4.152	4.017	3.851	3.660	3.451	3.232
0.60	1.847	1.849	1.856	1.868	1.883	1.902	1.924	1.949	1.975
	0.561	0.563	0.567	0.576	0.586	0.599	0.614	0.630	0.646
	0.000	0.065	0.128	0.187	0.239	0.283	0.317	0.340	0.352
	1.430	1.415	1.369	1.296	1.202	1.093	0.976	0.858	0.744
	4.319	4.299	4.240	4.145	4.015	3.854	3.668	3.464	3.247
0.65	1.850	1.852	1.859	1.871	1.886	1.905	1.927	1.951	1.977
	0.553	0.555	0.560	0.568	0.580	0.593	0.609	0.625	0.642
	0.000	0.066	0.130	0.190	0.243	0.287	0.321	0.344	0.356
	1.423	1.408	1.363	1.291	1.199	1.091	0.975	0.858	0.745
	4.303	4.284	4.228	4.136	4.011	3.856	3.675	3.475	3.261
0.70	1.853	1.855	1.862	1.874	1.889	1.908	1.929	1.953	1.979
	0.545	0.547	0.552	0.561	0.573	0.587	0.603	0.620	0.637
	0.000	0.067	0.132	0.193	0.246	0.291	0.325	0.348	0.359
	1.415	1.400	1.356	1.286	1.194	1.088	0.974	0.858	0.745
	4.286	4.268	4.214	4.127	4.006	3.856	3.681	3.485	3.274
0.75	1.856	1.859	1.866	1.877	1.892	1.910	1.932	1.956	1.981
	0.537	0.539	0.545	0.554	0.566	0.581	0.598	0.616	0.633
	0.000	0.068	0.134	0.195	0.249	0.294	0.329	0.352	0.362
	1.407	1.392	1.349	1.279	1.190	1.085	0.972	0.857	0.746
	4.268	4.251	4.200	4.116	4.000	3.855	3.685	3.493	3.286
0.80	1.860	1.862	1.869	1.880	1.895	1.913	1.934	1.958	1.983
	0.529	0.531	0.537	0.547	0.560	0.575	0.593	0.611	0.629
	0.000	0.069	0.136	0.198	0.253	0.298	0.333	0.355	0.365
	1.398	1.384	1.341	1.273	1.185	1.082	0.970	0.857	0.746
	4.249	4.232	4.184	4.103	3.993	3.853	3.688	3.501	3.296
0.85	1.863	1.865	1.872	1.883	1.898	1.916	1.937	1.960	1.984
	0.521	0.523	0.529	0.540	0.553	0.569	0.587	0.607	0.626
	0.000	0.070	0.138	0.201	0.256	0.301	0.336	0.358	0.368
	1.389	1.375	1.333	1.266	1.179	1.078	0.968	0.856	0.746
	4.228	4.213	4.166	4.090	3.984	3.850	3.690	3.507	3.306
0.90	1.867	1.869	1.875	1.886	1.901	1.918	1.939	1.962	1.986
	0.513	0.515	0.522	0.532	0.546	0.563	0.582	0.602	0.622
	0.000	0.071	0.140	0.203	0.259	0.305	0.339	0.362	0.371
	1.379	1.365	1.324	1.259	1.173	1.074	0.966	0.855	0.747
	4.206	4.192	4.148	4.075	3.974	3.846	3.691	3.513	3.315
0.95	1.870	1.872	1.879	1.889	1.903	1.921	1.941	1.964	1.988
	0.505	0.507	0.514	0.525	0.540	0.557	0.577	0.598	0.618
	0.000	0.072	0.141	0.205	0.262	0.308	0.343	0.365	0.373
	1.368	1.355	1.315	1.251	1.167	1.069	0.963	0.854	0.747
	4.183	4.169	4.128	4.059	3.963	3.840	3.691	3.518	3.323
1.00	1.874	1.876	1.882	1.892	1.906	1.924	1.944	1.966	1.989
	0.497	0.499	0.506	0.518	0.533	0.551	0.572	0.593	0.614
	0.000	0.073	0.143	0.208	0.265	0.311	0.346	0.368	0.376
	1.357	1.344	1.305	1.242	1.160	1.065	0.960	0.853	0.746
	4.158	4.145	4.107	4.042	3.951	3.834	3.690	3.521	3.330
F_x	0.440	0.440	0.440	0.442	0.443	0.445	0.448	0.450	0.454

$$M_{\infty} = 6, \beta_k = 20^\circ, \alpha = 10^\circ$$

ξ	θ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.00	1.911	1.930	1.949	1.966	1.981	1.992	1.999	2.164	2.001
	0.695	0.702	0.709	0.715	0.721	0.725	0.727	0.765	0.728
	0.285	0.281	0.265	0.233	0.185	0.125	0.062	0.000	0.000
	0.617	0.525	0.451	0.395	0.356	0.332	0.319	0.315	0.315
	2.381	2.126	1.911	1.742	1.621	1.544	1.502	2.156	1.490
0.05	1.960	1.988	2.015	2.042	2.066	2.087	2.101	2.106	
	0.706	0.716	0.727	0.737	0.746	0.753	0.758	0.760	
	0.289	0.282	0.264	0.232	0.187	0.132	0.069	0.000	
	0.619	0.527	0.453	0.396	0.357	0.332	0.319	0.315	
	2.683	2.468	2.296	2.178	2.120	2.119	2.142	2.155	
0.10	1.969	1.997	2.024	2.050	2.073	2.092	2.104	2.108	
	0.703	0.713	0.724	0.734	0.742	0.749	0.753	0.755	
	0.299	0.292	0.273	0.242	0.197	0.141	0.074	0.000	
	0.621	0.529	0.455	0.398	0.358	0.332	0.319	0.315	
	2.751	2.541	2.369	2.246	2.176	2.152	2.152	2.154	
0.15	1.975	2.003	2.030	2.056	2.078	2.095	2.106	2.109	
	0.699	0.710	0.720	0.730	0.738	0.744	0.748	0.750	
	0.307	0.300	0.281	0.249	0.204	0.146	0.076	0.000	
	0.623	0.531	0.456	0.399	0.358	0.332	0.319	0.314	
	2.800	2.591	2.417	2.288	2.208	2.169	2.155	2.151	
0.20	1.980	2.008	2.035	2.060	2.081	2.097	2.108	2.111	
	0.694	0.706	0.716	0.726	0.734	0.740	0.744	0.745	
	0.315	0.307	0.287	0.255	0.209	0.149	0.078	0.000	
	0.625	0.533	0.458	0.400	0.359	0.332	0.318	0.314	
	2.840	2.631	2.454	2.319	2.230	2.179	2.156	2.149	
0.25	1.983	2.011	2.038	2.063	2.084	2.100	2.109	2.113	
	0.690	0.701	0.712	0.721	0.729	0.735	0.740	0.741	
	0.321	0.313	0.293	0.259	0.212	0.152	0.079	0.000	
	0.627	0.535	0.459	0.401	0.359	0.332	0.318	0.313	
	2.873	2.664	2.484	2.344	2.245	2.186	2.155	2.145	
0.30	1.987	2.015	2.041	2.065	2.086	2.102	2.111	2.114	
	0.685	0.697	0.708	0.717	0.725	0.731	0.735	0.737	
	0.327	0.318	0.297	0.263	0.215	0.153	0.080	0.000	
	0.629	0.537	0.461	0.402	0.359	0.332	0.317	0.312	
	2.902	2.692	2.510	2.363	2.257	2.190	2.153	2.141	
0.35	1.990	2.017	2.044	2.068	2.088	2.104	2.113	2.116	
	0.681	0.693	0.704	0.713	0.721	0.727	0.731	0.733	
	0.332	0.322	0.301	0.266	0.217	0.154	0.080	0.000	
	0.631	0.539	0.462	0.403	0.360	0.332	0.316	0.311	
	2.928	2.717	2.532	2.380	2.267	2.192	2.150	2.136	
0.40	1.993	2.020	2.046	2.070	2.090	2.105	2.114	2.118	
	0.677	0.689	0.700	0.709	0.717	0.723	0.727	0.729	
	0.337	0.326	0.304	0.268	0.219	0.155	0.080	0.000	
	0.633	0.540	0.464	0.403	0.360	0.331	0.315	0.310	
	2.952	2.740	2.551	2.394	2.274	2.193	2.147	2.131	
0.45	1.995	2.022	2.048	2.072	2.092	2.107	2.116	2.119	
	0.673	0.685	0.696	0.706	0.713	0.719	0.723	0.725	
	0.341	0.330	0.307	0.270	0.220	0.156	0.081	0.000	
	0.635	0.542	0.465	0.404	0.360	0.331	0.314	0.309	
	2.973	2.760	2.568	2.405	2.280	2.193	2.142	2.125	
0.50	1.997	2.024	2.050	2.074	2.094	2.109	2.118	2.121	
	0.669	0.682	0.693	0.702	0.709	0.715	0.719	0.721	
	0.345	0.333	0.309	0.271	0.220	0.156	0.081	0.000	
	0.636	0.543	0.466	0.405	0.360	0.330	0.313	0.308	
	2.992	2.779	2.583	2.416	2.284	2.191	2.137	2.119	

$$M_{\infty} = 6, \beta_{\kappa} = 20^{\circ}, \alpha = 10^{\circ}$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.55	2.000	2.026	2.052	2.076	2.095	2.110	2.119	2.122	
	0.665	0.678	0.689	0.698	0.706	0.711	0.716	0.717	
	0.348	0.336	0.311	0.273	0.221	0.156	0.080	0.000	
	0.637	0.545	0.467	0.405	0.359	0.329	0.312	0.306	
	3.010	2.795	2.597	2.425	2.287	2.189	2.131	2.112	
0.60	2.002	2.028	2.054	2.077	2.097	2.112	2.121	2.124	
	0.661	0.674	0.686	0.695	0.702	0.708	0.712	0.713	
	0.351	0.338	0.312	0.273	0.221	0.156	0.080	0.000	
	0.639	0.546	0.468	0.406	0.359	0.328	0.311	0.305	
	3.027	2.811	2.610	2.432	2.289	2.186	2.125	2.104	
0.65	2.003	2.030	2.055	2.079	2.099	2.113	2.123	2.126	
	0.657	0.671	0.683	0.692	0.699	0.704	0.708	0.709	
	0.354	0.340	0.314	0.274	0.221	0.155	0.080	0.000	
	0.640	0.547	0.469	0.406	0.359	0.327	0.309	0.303	
	3.042	2.825	2.621	2.439	2.290	2.182	2.118	2.096	
0.70	2.005	2.031	2.057	2.080	2.100	2.115	2.124	2.127	
	0.654	0.668	0.680	0.689	0.695	0.700	0.704	0.705	
	0.357	0.342	0.315	0.274	0.221	0.155	0.080	0.000	
	0.641	0.549	0.470	0.406	0.358	0.326	0.307	0.301	
	3.056	2.839	2.631	2.445	2.291	2.178	2.110	2.087	
0.75	2.007	2.033	2.058	2.082	2.101	2.117	2.126	2.129	
	0.650	0.665	0.677	0.686	0.692	0.697	0.700	0.701	
	0.360	0.344	0.316	0.275	0.221	0.155	0.080	0.000	
	0.642	0.550	0.471	0.406	0.358	0.325	0.306	0.299	
	3.069	2.851	2.641	2.450	2.290	2.172	2.101	2.077	
0.80	2.008	2.034	2.060	2.083	2.103	2.118	2.128	2.131	
	0.647	0.662	0.674	0.683	0.689	0.693	0.696	0.697	
	0.362	0.346	0.317	0.275	0.220	0.154	0.079	0.000	
	0.643	0.551	0.471	0.407	0.357	0.323	0.304	0.297	
	3.081	2.862	2.649	2.454	2.289	2.166	2.091	2.066	
0.85	2.010	2.036	2.061	2.084	2.104	2.120	2.129	2.133	
	0.643	0.659	0.671	0.680	0.686	0.689	0.692	0.693	
	0.364	0.347	0.317	0.275	0.220	0.154	0.079	0.000	
	0.644	0.552	0.472	0.407	0.356	0.322	0.302	0.295	
	3.092	2.873	2.657	2.458	2.288	2.159	2.081	2.055	
0.90	2.011	2.037	2.062	2.085	2.106	2.121	2.131	2.135	
	0.640	0.656	0.668	0.677	0.682	0.686	0.688	0.689	
	0.366	0.349	0.318	0.275	0.219	0.153	0.078	0.000	
	0.645	0.553	0.473	0.407	0.356	0.320	0.299	0.292	
	3.103	2.883	2.665	2.461	2.285	2.152	2.070	2.042	
0.95	2.013	2.038	2.063	2.087	2.107	2.123	2.133	2.137	
	0.637	0.653	0.666	0.674	0.679	0.682	0.684	0.684	
	0.368	0.350	0.318	0.274	0.219	0.152	0.078	0.000	
	0.645	0.554	0.473	0.407	0.355	0.318	0.297	0.290	
	3.112	2.892	2.672	2.463	2.282	2.143	2.057	2.028	
1.00	2.014	2.039	2.064	2.088	2.108	2.125	2.135	2.139	
	0.634	0.651	0.663	0.672	0.676	0.678	0.679	0.679	
	0.370	0.351	0.318	0.274	0.218	0.151	0.078	0.000	
	0.646	0.554	0.474	0.407	0.354	0.316	0.294	0.287	
	3.121	2.900	2.678	2.465	2.279	2.134	2.044	2.013	
F_x	0.457	0.460	0.463	0.465	0.466	0.467	0.467	0.467	

$$M_{\infty} = 6, \beta_{\kappa} = 25^{\circ}, \alpha = 5^{\circ}$$

ξ	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.00	1.737	1.737	1.740	1.744	1.749	1.755	1.763	1.771	1.780
	0.809	0.810	0.811	0.813	0.815	0.818	0.822	0.826	0.830
	0.000	0.021	0.042	0.062	0.080	0.095	0.106	0.114	0.117
	1.498	1.489	1.465	1.425	1.373	1.311	1.244	1.173	1.102
0.05	4.421	4.403	4.351	4.268	4.156	4.023	3.874	3.716	3.557
	1.740	1.742	1.746	1.753	1.763	1.775	1.789	1.805	1.821
	0.800	0.803	0.805	0.808	0.813	0.819	0.825	0.833	0.841
	0.000	0.024	0.048	0.070	0.089	0.105	0.118	0.127	0.130
0.10	1.498	1.489	1.464	1.425	1.373	1.312	1.244	1.173	1.103
	4.420	4.408	4.373	4.316	4.241	4.152	4.055	3.953	3.854
	1.744	1.745	1.750	1.757	1.767	1.780	1.794	1.810	1.827
	0.794	0.795	0.797	0.801	0.806	0.812	0.819	0.827	0.835
0.15	0.000	0.026	0.051	0.074	0.095	0.113	0.127	0.136	0.140
	1.497	1.488	1.464	1.424	1.373	1.311	1.243	1.173	1.102
	4.418	4.407	4.374	4.320	4.248	4.163	4.069	3.971	3.874
	1.747	1.749	1.754	1.761	1.771	1.784	1.798	1.814	1.831
0.20	0.787	0.788	0.790	0.794	0.799	0.805	0.812	0.820	0.829
	0.000	0.027	0.054	0.078	0.100	0.119	0.133	0.143	0.147
	1.495	1.487	1.462	1.423	1.372	1.310	1.243	1.172	1.102
	4.415	4.404	4.372	4.320	4.251	4.169	4.078	3.982	3.887
0.25	1.751	1.753	1.757	1.765	1.775	1.787	1.802	1.818	1.835
	0.780	0.780	0.783	0.787	0.792	0.798	0.806	0.814	0.823
	0.000	0.028	0.056	0.082	0.104	0.124	0.139	0.149	0.153
	1.493	1.485	1.460	1.421	1.370	1.309	1.242	1.171	1.101
0.30	4.411	4.400	4.369	4.319	4.252	4.172	4.083	3.989	3.895
	1.755	1.756	1.761	1.768	1.779	1.791	1.806	1.821	1.838
	0.772	0.773	0.775	0.780	0.785	0.792	0.799	0.808	0.816
	0.000	0.029	0.058	0.084	0.108	0.128	0.144	0.154	0.159
0.35	1.491	1.482	1.458	1.419	1.368	1.307	1.240	1.170	1.100
	4.405	4.395	4.365	4.316	4.251	4.173	4.086	3.993	3.900
	1.758	1.760	1.764	1.772	1.782	1.795	1.809	1.825	1.842
	0.765	0.766	0.768	0.772	0.778	0.785	0.793	0.801	0.810
0.40	0.000	0.030	0.060	0.087	0.111	0.132	0.148	0.158	0.163
	1.487	1.479	1.455	1.416	1.366	1.305	1.238	1.168	1.098
	4.398	4.389	4.359	4.312	4.249	4.172	4.087	3.995	3.903
	1.762	1.763	1.768	1.775	1.786	1.798	1.813	1.828	1.845
0.45	0.758	0.759	0.761	0.765	0.771	0.778	0.786	0.795	0.804
	0.000	0.031	0.061	0.089	0.114	0.135	0.152	0.162	0.167
	1.484	1.476	1.452	1.413	1.363	1.302	1.236	1.166	1.097
	4.391	4.381	4.352	4.306	4.245	4.170	4.086	3.996	3.904
0.50	1.765	1.767	1.771	1.779	1.789	1.802	1.816	1.832	1.848
	0.750	0.751	0.754	0.759	0.764	0.772	0.780	0.789	0.798
	0.000	0.032	0.063	0.091	0.117	0.139	0.155	0.166	0.171
	1.480	1.471	1.448	1.410	1.359	1.299	1.233	1.164	1.094
0.55	4.382	4.372	4.344	4.300	4.239	4.166	4.084	3.995	3.903
	1.769	1.770	1.775	1.783	1.793	1.805	1.819	1.835	1.852
	0.743	0.744	0.747	0.752	0.758	0.765	0.774	0.783	0.792
	0.000	0.032	0.064	0.093	0.120	0.141	0.158	0.170	0.174
0.60	1.475	1.467	1.443	1.405	1.355	1.296	1.230	1.161	1.092
	4.371	4.362	4.335	4.292	4.233	4.161	4.080	3.992	3.902
	1.772	1.774	1.779	1.786	1.796	1.809	1.823	1.838	1.855
	0.736	0.737	0.740	0.745	0.751	0.759	0.767	0.777	0.786
0.65	0.000	0.033	0.065	0.095	0.122	0.144	0.161	0.173	0.178
	1.470	1.462	1.438	1.401	1.351	1.292	1.227	1.158	1.089
	4.360	4.351	4.325	4.282	4.225	4.155	4.075	3.988	3.898
	1.777	1.779	1.784	1.791	1.800	1.811	1.823	1.836	1.850

$$M_{\infty} = 6, \beta_k = 25^\circ, \alpha = 5^\circ$$

ξ	θ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.55	1.776	1.778	1.782	1.790	1.800	1.812	1.826	1.842	1.858
	0.729	0.730	0.733	0.738	0.744	0.752	0.761	0.771	0.780
	0.000	0.034	0.067	0.097	0.124	0.147	0.164	0.176	0.180
	1.464	1.456	1.433	1.396	1.346	1.288	1.223	1.154	1.086
	4.348	4.339	4.314	4.272	4.216	4.147	4.069	3.983	3.894
0.60	1.780	1.781	1.786	1.793	1.803	1.815	1.829	1.845	1.861
	0.722	0.723	0.726	0.731	0.738	0.746	0.755	0.765	0.775
	0.000	0.034	0.068	0.099	0.126	0.149	0.167	0.178	0.183
	1.458	1.450	1.427	1.390	1.341	1.283	1.218	1.151	1.082
	4.335	4.326	4.301	4.261	4.206	4.139	4.061	3.977	3.888
0.65	1.783	1.785	1.789	1.797	1.807	1.819	1.833	1.848	1.864
	0.715	0.716	0.719	0.725	0.731	0.739	0.749	0.759	0.769
	0.000	0.035	0.069	0.100	0.128	0.151	0.169	0.181	0.186
	1.451	1.443	1.421	1.384	1.336	1.278	1.214	1.146	1.078
	4.320	4.312	4.288	4.248	4.195	4.129	4.053	3.969	3.881
0.70	1.787	1.788	1.793	1.800	1.810	1.822	1.836	1.851	1.867
	0.708	0.709	0.713	0.718	0.725	0.733	0.743	0.753	0.763
	0.000	0.035	0.070	0.102	0.130	0.153	0.171	0.183	0.188
	1.444	1.436	1.414	1.378	1.330	1.272	1.209	1.142	1.074
	4.305	4.297	4.273	4.235	4.183	4.118	4.043	3.961	3.874
0.75	1.791	1.792	1.797	1.804	1.814	1.826	1.839	1.854	1.870
	0.701	0.702	0.706	0.711	0.718	0.727	0.736	0.747	0.758
	0.000	0.036	0.071	0.103	0.132	0.155	0.174	0.185	0.190
	1.436	1.429	1.406	1.371	1.323	1.267	1.203	1.137	1.070
	4.288	4.281	4.258	4.220	4.169	4.106	4.033	3.951	3.865
0.80	1.794	1.796	1.800	1.807	1.817	1.829	1.843	1.858	1.873
	0.694	0.696	0.699	0.704	0.712	0.720	0.730	0.741	0.752
	0.000	0.036	0.072	0.104	0.133	0.157	0.176	0.187	0.192
	1.428	1.421	1.399	1.363	1.316	1.260	1.198	1.132	1.065
	4.271	4.263	4.241	4.205	4.155	4.093	4.021	3.941	3.855
0.85	1.798	1.800	1.804	1.811	1.821	1.832	1.846	1.861	1.876
	0.687	0.689	0.692	0.698	0.705	0.714	0.724	0.735	0.746
	0.000	0.037	0.073	0.106	0.135	0.159	0.178	0.189	0.194
	1.419	1.412	1.390	1.355	1.309	1.253	1.192	1.126	1.060
	4.252	4.245	4.223	4.188	4.139	4.079	4.008	3.929	3.844
0.90	1.802	1.803	1.808	1.815	1.824	1.836	1.849	1.864	1.880
	0.681	0.682	0.685	0.691	0.699	0.708	0.718	0.729	0.741
	0.000	0.037	0.073	0.107	0.136	0.161	0.179	0.191	0.196
	1.410	1.403	1.382	1.347	1.301	1.246	1.185	1.120	1.054
	4.232	4.225	4.204	4.170	4.123	4.064	3.994	3.916	3.832
0.95	1.806	1.807	1.811	1.818	1.828	1.839	1.853	1.867	1.883
	0.674	0.675	0.678	0.684	0.692	0.702	0.712	0.723	0.735
	0.000	0.038	0.074	0.108	0.138	0.163	0.181	0.193	0.197
	1.401	1.393	1.372	1.338	1.293	1.239	1.178	1.114	1.048
	4.211	4.204	4.184	4.151	4.105	4.047	3.979	3.902	3.818
1.00	1.810	1.811	1.815	1.822	1.831	1.843	1.856	1.870	1.886
	0.666	0.668	0.671	0.678	0.686	0.695	0.706	0.718	0.729
	0.000	0.038	0.075	0.109	0.139	0.164	0.183	0.195	0.199
	1.390	1.383	1.362	1.329	1.284	1.231	1.171	1.107	1.042
	4.189	4.182	4.163	4.131	4.086	4.030	3.963	3.887	3.804
F_x	0.558	0.558	0.558	0.559	0.559	0.559	0.559	0.560	0.560

$$M_{\infty} = 6, \beta_K = 25^\circ, \alpha = 5^\circ$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.00	1.789	1.797	1.805	1.813	1.819	1.823	1.826	1.914	1.827
	0.834	0.838	0.842	0.845	0.848	0.850	0.851	0.892	0.852
	0.116	0.111	0.100	0.085	0.067	0.046	0.023	0.000	0.000
	1.035	0.974	0.920	0.875	0.839	0.814	0.799	0.793	0.793
	3.402	3.257	3.129	3.019	2.932	2.869	2.831	3.498	2.819
0.05	1.839	1.856	1.872	1.887	1.899	1.909	1.915	1.917	
	0.849	0.857	0.865	0.872	0.878	0.882	0.885	0.886	
	0.129	0.123	0.111	0.095	0.075	0.052	0.026	0.000	
	1.035	0.974	0.920	0.875	0.839	0.814	0.798	0.793	
	3.761	3.681	3.615	3.566	3.532	3.511	3.500	3.497	
0.10	1.844	1.861	1.877	1.891	1.903	1.912	1.918	1.920	
	0.843	0.851	0.859	0.866	0.872	0.876	0.879	0.880	
	0.139	0.132	0.120	0.103	0.082	0.057	0.029	0.000	
	1.035	0.974	0.920	0.874	0.839	0.813	0.798	0.793	
	3.783	3.702	3.634	3.580	3.540	3.514	3.500	3.495	
0.15	1.848	1.865	1.880	1.895	1.906	1.915	1.921	1.923	
	0.837	0.845	0.853	0.860	0.866	0.870	0.873	0.874	
	0.146	0.139	0.127	0.109	0.087	0.060	0.031	0.000	
	1.035	0.973	0.919	0.874	0.838	0.812	0.797	0.792	
	3.796	3.714	3.644	3.587	3.544	3.515	3.498	3.492	
0.20	1.852	1.868	1.884	1.898	1.909	1.918	1.923	1.925	
	0.831	0.840	0.847	0.854	0.860	0.864	0.867	0.868	
	0.152	0.145	0.132	0.114	0.090	0.063	0.032	0.000	
	1.034	0.972	0.918	0.873	0.837	0.811	0.796	0.791	
	3.804	3.722	3.650	3.591	3.545	3.513	3.495	3.488	
0.25	1.855	1.872	1.887	1.901	1.912	1.921	1.926	1.928	
	0.825	0.834	0.842	0.849	0.854	0.859	0.861	0.862	
	0.157	0.150	0.137	0.118	0.093	0.065	0.033	0.000	
	1.033	0.971	0.917	0.872	0.836	0.810	0.794	0.789	
	3.810	3.726	3.653	3.592	3.544	3.510	3.490	3.483	
0.30	1.859	1.875	1.890	1.904	1.915	1.924	1.929	1.931	
	0.819	0.828	0.836	0.843	0.849	0.853	0.856	0.857	
	0.162	0.154	0.141	0.121	0.096	0.067	0.034	0.000	
	1.032	0.970	0.916	0.870	0.834	0.808	0.793	0.787	
	3.813	3.729	3.654	3.592	3.542	3.506	3.485	3.478	
0.35	1.862	1.878	1.894	1.907	1.918	1.927	1.932	1.933	
	0.813	0.822	0.830	0.837	0.843	0.848	0.850	0.851	
	0.166	0.158	0.144	0.124	0.098	0.068	0.035	0.000	
	1.030	0.968	0.914	0.868	0.832	0.806	0.791	0.785	
	3.814	3.730	3.654	3.590	3.538	3.501	3.479	3.471	
0.40	1.865	1.881	1.897	1.910	1.921	1.929	1.934	1.936	
	0.807	0.816	0.825	0.832	0.838	0.842	0.845	0.846	
	0.170	0.162	0.147	0.126	0.100	0.069	0.035	0.000	
	1.028	0.966	0.912	0.866	0.830	0.804	0.788	0.783	
	3.814	3.729	3.652	3.586	3.534	3.495	3.471	3.463	
0.45	1.868	1.884	1.899	1.913	1.924	1.932	1.937	1.939	
	0.802	0.811	0.819	0.826	0.832	0.837	0.840	0.841	
	0.173	0.165	0.150	0.129	0.102	0.071	0.036	0.000	
	1.025	0.964	0.910	0.864	0.828	0.801	0.786	0.780	
	3.812	3.727	3.649	3.582	3.528	3.488	3.463	3.455	
0.50	1.871	1.887	1.902	1.916	1.927	1.935	1.940	1.941	
	0.796	0.805	0.814	0.821	0.827	0.832	0.834	0.835	
	0.176	0.167	0.152	0.131	0.103	0.072	0.036	0.000	
	1.023	0.961	0.907	0.861	0.825	0.799	0.783	0.778	
	3.809	3.723	3.645	3.576	3.521	3.480	3.455	3.446	

$$M_{\infty} = 6, \beta_{\kappa} = 25^{\circ}, \alpha = 5^{\circ}$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.55	1.874 0.790 0.179 1.020 3.804	1.890 0.800 0.170 0.958 3.718	1.905 0.808 0.154 0.904 3.639	1.918 0.816 0.132 0.858 3.570	1.929 0.822 0.105 0.822 3.513	1.937 0.826 0.072 0.796 3.471	1.942 0.829 0.037 0.780 3.445	1.944 0.830 0.000 0.774 3.436	
0.60	1.877 0.785 0.181 1.016 3.799	1.893 0.794 0.172 0.955 3.713	1.908 0.803 0.156 0.901 3.632	1.921 0.810 0.134 0.855 3.562	1.932 0.817 0.106 0.819 3.504	1.940 0.821 0.073 0.792 3.461	1.945 0.824 0.037 0.777 3.434	1.947 0.825 0.000 0.771 3.425	
0.65	1.880 0.779 0.183 1.013 3.792	1.896 0.789 0.174 0.952 3.706	1.911 0.798 0.158 0.898 3.625	1.924 0.805 0.135 0.852 3.553	1.935 0.811 0.107 0.815 3.494	1.943 0.816 0.074 0.789 3.450	1.948 0.819 0.038 0.773 3.423	1.949 0.820 0.000 0.768 3.414	
0.70	1.883 0.774 0.186 1.009 3.785	1.899 0.783 0.176 0.948 3.698	1.914 0.792 0.160 0.894 3.616	1.927 0.800 0.137 0.848 3.544	1.937 0.806 0.108 0.812 3.484	1.945 0.811 0.075 0.785 3.439	1.950 0.814 0.038 0.769 3.411	1.952 0.815 0.000 0.764 3.401	
0.75	1.886 0.768 0.188 1.005 3.776	1.902 0.778 0.178 0.944 3.689	1.917 0.787 0.161 0.890 3.607	1.929 0.795 0.138 0.844 3.533	1.940 0.801 0.109 0.808 3.472	1.948 0.806 0.075 0.781 3.426	1.953 0.809 0.038 0.765 3.398	1.955 0.810 0.000 0.760 3.388	
0.80	1.889 0.763 0.190 1.000 3.766	1.905 0.773 0.180 0.940 3.679	1.919 0.782 0.163 0.886 3.596	1.932 0.790 0.139 0.840 3.522	1.943 0.796 0.110 0.803 3.460	1.951 0.801 0.076 0.777 3.413	1.956 0.804 0.039 0.761 3.384	1.957 0.805 0.000 0.755 3.374	
0.85	1.892 0.757 0.191 0.995 3.756	1.908 0.767 0.181 0.935 3.668	1.922 0.777 0.164 0.881 3.585	1.935 0.785 0.140 0.836 3.510	1.946 0.791 0.111 0.799 3.446	1.954 0.796 0.076 0.772 3.399	1.958 0.799 0.039 0.756 3.369	1.960 0.800 0.000 0.751 3.359	
0.90	1.895 0.752 0.193 0.990 3.744	1.911 0.762 0.183 0.930 3.656	1.925 0.771 0.165 0.877 3.572	1.938 0.779 0.141 0.831 3.496	1.948 0.786 0.111 0.794 3.432	1.956 0.791 0.077 0.768 3.384	1.961 0.794 0.039 0.751 3.353	1.963 0.795 0.000 0.746 3.343	
0.95	1.898 0.746 0.194 0.985 3.731	1.914 0.757 0.184 0.925 3.643	1.928 0.766 0.166 0.872 3.559	1.941 0.774 0.142 0.826 3.482	1.951 0.781 0.112 0.789 3.417	1.959 0.786 0.077 0.762 3.368	1.964 0.788 0.039 0.746 3.337	1.966 0.789 0.000 0.741 3.326	
1.00	1.901 0.741 0.196 0.979 3.717	1.916 0.751 0.185 0.920 3.629	1.931 0.761 0.167 0.866 3.544	1.943 0.769 0.143 0.821 3.467	1.954 0.776 0.112 0.784 3.401	1.962 0.780 0.078 0.757 3.351	1.967 0.783 0.039 0.741 3.319	1.968 0.784 0.000 0.735 3.308	
F_x	0.560	0.560	0.559	0.559	0.559	0.558	0.558	0.558	

$$M_{\infty} = 6, \beta_K = 25^\circ, \alpha = 10^\circ$$

ξ	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.00	1.625	1.626	1.631	1.639	1.650	1.664	1.680	1.698	1.717
	0.757	0.758	0.760	0.764	0.769	0.775	0.783	0.791	0.801
	0.000	0.043	0.086	0.126	0.163	0.196	0.223	0.242	0.254
	1.911	1.891	1.834	1.742	1.624	1.480	1.341	1.193	1.051
	4.735	4.700	4.598	4.434	4.218	3.962	3.681	3.387	3.097
0.05	1.629	1.631	1.639	1.652	1.669	1.691	1.717	1.745	1.776
	0.749	0.750	0.754	0.760	0.769	0.779	0.791	0.805	0.820
	0.000	0.047	0.093	0.137	0.176	0.210	0.237	0.256	0.266
	1.911	1.891	1.834	1.743	1.625	1.489	1.343	1.195	1.053
	4.734	4.707	4.627	4.498	4.327	4.125	3.902	3.672	3.445
0.10	1.633	1.635	1.644	1.657	1.675	1.698	1.725	1.754	1.786
	0.741	0.742	0.746	0.753	0.762	0.773	0.786	0.801	0.817
	0.000	0.050	0.099	0.145	0.186	0.221	0.249	0.269	0.280
	1.909	1.890	1.833	1.742	1.625	1.490	1.344	1.196	1.055
	4.732	4.707	4.631	4.510	4.350	4.159	3.947	3.728	3.511
0.15	1.637	1.639	1.648	1.662	1.681	1.704	1.731	1.761	1.793
	0.732	0.734	0.738	0.745	0.755	0.767	0.781	0.796	0.812
	0.000	0.052	0.103	0.151	0.194	0.231	0.260	0.281	0.292
	1.908	1.888	1.831	1.742	1.625	1.490	1.345	1.198	1.057
	4.729	4.705	4.633	4.518	4.365	4.182	3.979	3.767	3.557
0.20	1.641	1.643	1.652	1.666	1.685	1.709	1.736	1.767	1.799
	0.724	0.725	0.730	0.738	0.748	0.760	0.775	0.791	0.807
	0.000	0.054	0.107	0.157	0.201	0.239	0.269	0.291	0.302
	1.905	1.886	1.829	1.740	1.624	1.490	1.345	1.199	1.058
	4.724	4.701	4.633	4.522	4.376	4.200	4.005	3.799	3.594
0.25	1.645	1.648	1.656	1.670	1.690	1.713	1.741	1.772	1.804
	0.716	0.717	0.722	0.730	0.741	0.754	0.769	0.785	0.802
	0.000	0.056	0.111	0.162	0.208	0.247	0.278	0.300	0.311
	1.902	1.883	1.827	1.738	1.623	1.490	1.346	1.200	1.059
	4.718	4.696	4.631	4.525	4.384	4.215	4.026	3.826	3.625
0.30	1.649	1.652	1.660	1.675	1.694	1.718	1.746	1.776	1.809
	0.707	0.709	0.714	0.722	0.733	0.747	0.763	0.780	0.797
	0.000	0.058	0.114	0.167	0.214	0.254	0.286	0.308	0.319
	1.898	1.879	1.823	1.736	1.622	1.489	1.346	1.201	1.060
	4.711	4.690	4.627	4.526	4.390	4.227	4.043	3.848	3.651
0.35	1.653	1.656	1.664	1.679	1.698	1.722	1.750	1.780	1.813
	0.699	0.701	0.706	0.715	0.726	0.740	0.757	0.774	0.792
	0.000	0.059	0.117	0.171	0.219	0.260	0.293	0.315	0.327
	1.893	1.874	1.820	1.732	1.619	1.488	1.345	1.201	1.061
	4.703	4.683	4.622	4.525	4.394	4.237	4.058	3.868	3.675
0.40	1.657	1.660	1.668	1.683	1.702	1.726	1.754	1.784	1.817
	0.691	0.693	0.698	0.707	0.719	0.734	0.751	0.769	0.787
	0.000	0.061	0.120	0.175	0.225	0.267	0.299	0.322	0.334
	1.888	1.869	1.815	1.729	1.617	1.486	1.345	1.201	1.062
	4.693	4.674	4.616	4.523	4.397	4.244	4.071	3.886	3.695
0.45	1.661	1.664	1.673	1.687	1.706	1.730	1.758	1.788	1.820
	0.683	0.685	0.691	0.700	0.712	0.727	0.745	0.763	0.782
	0.000	0.062	0.123	0.179	0.230	0.272	0.306	0.329	0.341
	1.882	1.864	1.810	1.724	1.613	1.484	1.344	1.201	1.062
	4.683	4.664	4.609	4.519	4.398	4.251	4.083	3.901	3.714
0.50	1.665	1.668	1.677	1.691	1.710	1.734	1.761	1.791	1.824
	0.675	0.677	0.683	0.692	0.705	0.721	0.739	0.758	0.777
	0.000	0.064	0.126	0.183	0.235	0.278	0.312	0.335	0.347
	1.875	1.857	1.804	1.720	1.610	1.481	1.343	1.201	1.062
	4.671	4.653	4.600	4.514	4.397	4.255	4.092	3.915	3.730

$$M_{\infty} = 6, \beta_{\kappa} = 25^{\circ}, \alpha = 10^{\circ}$$

ξ	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.55	1.669	1.672	1.681	1.695	1.714	1.738	1.765	1.795	1.827
	0.667	0.669	0.675	0.685	0.698	0.714	0.733	0.752	0.772
	0.000	0.065	0.128	0.187	0.239	0.283	0.317	0.341	0.352
	1.868	1.850	1.798	1.714	1.606	1.479	1.341	1.200	1.063
	4.658	4.640	4.590	4.507	4.396	4.258	4.100	3.927	3.745
0.60	1.673	1.676	1.685	1.699	1.718	1.741	1.768	1.798	1.830
	0.659	0.661	0.668	0.678	0.691	0.708	0.727	0.747	0.768
	0.000	0.066	0.131	0.190	0.243	0.288	0.323	0.346	0.357
	1.860	1.842	1.791	1.708	1.601	1.475	1.339	1.199	1.062
	4.643	4.627	4.579	4.500	4.392	4.260	4.106	3.937	3.758
0.65	1.677	1.680	1.689	1.703	1.722	1.745	1.772	1.801	1.833
	0.651	0.653	0.660	0.670	0.685	0.702	0.721	0.742	0.763
	0.000	0.067	0.133	0.194	0.248	0.293	0.328	0.351	0.362
	1.851	1.834	1.783	1.702	1.596	1.472	1.337	1.198	1.062
	4.628	4.612	4.566	4.491	4.388	4.260	4.112	3.946	3.770
0.70	1.682	1.684	1.693	1.707	1.725	1.748	1.775	1.804	1.836
	0.643	0.645	0.652	0.663	0.678	0.695	0.715	0.737	0.758
	0.000	0.069	0.135	0.197	0.252	0.297	0.333	0.356	0.367
	1.842	1.825	1.775	1.695	1.590	1.468	1.334	1.196	1.062
	4.611	4.596	4.553	4.481	4.382	4.259	4.115	3.954	3.781
0.75	1.686	1.689	1.697	1.711	1.729	1.752	1.778	1.807	1.838
	0.635	0.638	0.645	0.656	0.671	0.689	0.710	0.731	0.753
	0.000	0.070	0.137	0.200	0.255	0.302	0.337	0.361	0.372
	1.832	1.815	1.766	1.687	1.584	1.463	1.331	1.195	1.061
	4.593	4.579	4.538	4.469	4.375	4.257	4.118	3.961	3.790
0.80	1.690	1.693	1.701	1.715	1.733	1.756	1.782	1.810	1.841
	0.627	0.630	0.637	0.649	0.664	0.683	0.704	0.726	0.749
	0.000	0.071	0.139	0.203	0.259	0.306	0.342	0.365	0.376
	1.822	1.805	1.757	1.679	1.578	1.458	1.328	1.193	1.060
	4.574	4.561	4.522	4.457	4.367	4.254	4.119	3.966	3.798
0.85	1.694	1.697	1.705	1.719	1.737	1.759	1.785	1.813	1.844
	0.619	0.622	0.629	0.641	0.657	0.677	0.698	0.721	0.744
	0.000	0.072	0.141	0.206	0.263	0.310	0.346	0.370	0.380
	1.811	1.794	1.747	1.670	1.571	1.453	1.324	1.191	1.059
	4.554	4.542	4.505	4.443	4.358	4.249	4.120	3.970	3.805
0.90	1.699	1.701	1.710	1.723	1.741	1.763	1.788	1.816	1.846
	0.611	0.614	0.622	0.634	0.651	0.670	0.693	0.716	0.740
	0.000	0.073	0.143	0.209	0.266	0.314	0.350	0.374	0.384
	1.799	1.783	1.736	1.661	1.563	1.447	1.320	1.188	1.057
	4.532	4.521	4.486	4.428	4.347	4.244	4.119	3.974	3.811
0.95	1.703	1.706	1.714	1.727	1.744	1.766	1.791	1.819	1.849
	0.603	0.606	0.614	0.627	0.644	0.664	0.687	0.711	0.736
	0.000	0.074	0.145	0.211	0.269	0.318	0.354	0.378	0.387
	1.786	1.771	1.725	1.651	1.555	1.441	1.316	1.185	1.056
	4.510	4.499	4.466	4.412	4.335	4.237	4.116	3.976	3.816
1.00	1.708	1.710	1.718	1.731	1.748	1.769	1.794	1.822	1.851
	0.595	0.598	0.606	0.619	0.637	0.658	0.682	0.706	0.731
	0.000	0.075	0.147	0.214	0.273	0.321	0.358	0.381	0.391
	1.773	1.758	1.713	1.641	1.546	1.434	1.311	1.182	1.054
	4.486	4.475	4.445	4.394	4.322	4.228	4.113	3.977	3.820
F_x	0.562	0.562	0.563	0.564	0.565	0.566	0.567	0.568	0.570

$$M_{\infty} = 6, \beta_{\kappa} = 25^{\circ}, \alpha = 10^{\circ}$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.00	1.738	1.758	1.778	1.797	1.811	1.822	1.829	1.881	1.831
	0.810	0.820	0.830	0.838	0.844	0.849	0.852	0.877	0.853
	0.257	0.248	0.226	0.193	0.152	0.103	0.051	0.000	0.000
	0.922	0.809	0.715	0.642	0.588	0.552	0.532	0.526	0.526
0.05	2.821	2.573	2.359	2.184	2.054	1.966	1.915	2.365	1.899
	1.809	1.842	1.876	1.908	1.937	1.960	1.975	1.981	
	0.836	0.852	0.867	0.882	0.896	0.907	0.914	0.916	
	0.266	0.256	0.235	0.203	0.162	0.113	0.058	0.000	
0.10	0.924	0.811	0.716	0.642	0.589	0.553	0.532	0.526	
	3.237	3.059	2.923	2.842	2.817	2.833	2.861	2.874	
	1.820	1.853	1.886	1.918	1.944	1.965	1.979	1.983	
	0.833	0.849	0.865	0.880	0.892	0.902	0.909	0.911	
0.15	0.280	0.270	0.250	0.218	0.175	0.124	0.064	0.000	
	0.925	0.812	0.717	0.643	0.589	0.553	0.532	0.525	
	3.310	3.137	3.000	2.912	2.870	2.862	2.868	2.872	
	1.827	1.861	1.893	1.924	1.949	1.969	1.982	1.986	
0.20	0.829	0.846	0.861	0.876	0.888	0.897	0.903	0.905	
	0.292	0.282	0.262	0.229	0.185	0.131	0.068	0.000	
	0.927	0.814	0.718	0.644	0.589	0.552	0.531	0.525	
	3.361	3.189	3.051	2.955	2.901	2.877	2.871	2.869	
0.25	1.833	1.866	1.899	1.928	1.953	1.972	1.984	1.988	
	0.825	0.842	0.857	0.871	0.883	0.893	0.898	0.901	
	0.303	0.293	0.271	0.238	0.192	0.136	0.071	0.000	
	0.929	0.815	0.719	0.644	0.589	0.552	0.531	0.524	
0.30	3.401	3.229	3.088	2.986	2.922	2.887	2.871	2.866	
	1.838	1.871	1.903	1.932	1.957	1.975	1.987	1.990	
	0.820	0.837	0.853	0.867	0.879	0.888	0.894	0.896	
	0.312	0.301	0.279	0.245	0.198	0.140	0.073	0.000	
0.35	0.930	0.816	0.720	0.645	0.589	0.551	0.530	0.523	
	3.434	3.262	3.118	3.010	2.936	2.892	2.869	2.862	
	1.842	1.875	1.907	1.936	1.960	1.978	1.989	1.993	
	0.815	0.833	0.848	0.862	0.874	0.883	0.889	0.891	
0.40	0.320	0.309	0.286	0.251	0.203	0.143	0.074	0.000	
	0.931	0.817	0.721	0.645	0.589	0.550	0.529	0.522	
	3.462	3.290	3.143	3.028	2.947	2.895	2.866	2.857	
	1.846	1.879	1.911	1.939	1.963	1.980	1.991	1.995	
0.45	0.810	0.828	0.844	0.858	0.870	0.879	0.885	0.887	
	0.327	0.316	0.293	0.256	0.207	0.146	0.075	0.000	
	0.932	0.818	0.722	0.645	0.588	0.550	0.527	0.520	
	3.487	3.314	3.164	3.044	2.956	2.896	2.863	2.851	
0.50	1.850	1.882	1.914	1.942	1.965	1.983	1.993	1.997	
	0.806	0.824	0.839	0.853	0.865	0.874	0.880	0.882	
	0.334	0.322	0.298	0.261	0.210	0.148	0.076	0.000	
	0.933	0.819	0.722	0.645	0.588	0.548	0.526	0.519	
0.55	3.509	3.335	3.182	3.056	2.962	2.896	2.858	2.845	
	1.853	1.886	1.917	1.945	1.968	1.985	1.996	1.999	
	0.801	0.819	0.835	0.849	0.861	0.870	0.876	0.878	
	0.340	0.328	0.303	0.265	0.213	0.150	0.077	0.000	
0.60	0.934	0.819	0.722	0.645	0.587	0.547	0.525	0.517	
	3.529	3.354	3.197	3.067	2.966	2.895	2.853	2.838	
	1.856	1.889	1.920	1.947	1.970	1.987	1.998	2.001	
	0.797	0.815	0.831	0.845	0.857	0.866	0.871	0.874	
0.65	0.346	0.333	0.307	0.268	0.216	0.151	0.078	0.000	
	0.934	0.820	0.723	0.645	0.586	0.546	0.523	0.515	
	3.546	3.371	3.211	3.075	2.969	2.892	2.847	2.831	

$$M_{\infty} = 6, \beta_{\kappa} = 25^{\circ}, \alpha = 10^{\circ}$$

ξ	θ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.55	1.859 0.792 0.351 0.935 3.562	1.891 0.810 0.337 0.820 3.385	1.922 0.827 0.311 0.723 3.222	1.950 0.841 0.271 0.644 3.082	1.973 0.853 0.219 0.585 2.970	1.990 0.862 0.153 0.544 2.889	2.000 0.867 0.079 0.522 2.841	2.004 0.870 0.000 0.513 2.822	
0.60	1.862 0.788 0.356 0.935 3.576	1.894 0.806 0.342 0.821 3.399	1.925 0.823 0.314 0.723 3.233	1.952 0.837 0.274 0.644 3.088	1.975 0.849 0.220 0.584 2.971	1.992 0.858 0.154 0.542 2.884	2.002 0.863 0.079 0.520 2.833	2.006 0.865 0.000 0.511 2.814	
0.65	1.865 0.783 0.361 0.935 3.589	1.897 0.802 0.346 0.821 3.411	1.927 0.819 0.318 0.723 3.242	1.954 0.833 0.276 0.643 3.092	1.977 0.845 0.221 0.582 2.970	1.994 0.854 0.155 0.541 2.879	2.004 0.859 0.079 0.517 2.824	2.008 0.861 0.000 0.508 2.804	
0.70	1.868 0.779 0.365 0.935 3.601	1.899 0.798 0.349 0.821 3.421	1.929 0.815 0.320 0.722 3.249	1.957 0.829 0.278 0.642 3.096	1.979 0.841 0.222 0.581 2.968	1.996 0.850 0.155 0.539 2.873	2.007 0.855 0.080 0.514 2.814	2.010 0.857 0.000 0.506 2.794	
0.75	1.870 0.775 0.369 0.935 3.611	1.901 0.794 0.353 0.821 3.431	1.932 0.811 0.323 0.722 3.256	1.959 0.825 0.280 0.641 3.098	1.981 0.837 0.224 0.579 2.966	1.998 0.846 0.156 0.536 2.866	2.009 0.851 0.080 0.512 2.804	2.012 0.853 0.000 0.503 2.783	
0.80	1.872 0.771 0.373 0.934 3.620	1.904 0.790 0.356 0.821 3.439	1.934 0.807 0.325 0.722 3.262	1.961 0.822 0.281 0.640 3.100	1.983 0.833 0.224 0.578 2.962	2.000 0.842 0.157 0.534 2.858	2.011 0.847 0.080 0.509 2.793	2.014 0.849 0.000 0.500 2.771	
0.85	1.875 0.767 0.376 0.934 3.629	1.906 0.787 0.359 0.820 3.447	1.936 0.804 0.328 0.721 3.267	1.963 0.818 0.283 0.639 3.100	1.985 0.829 0.225 0.576 2.958	2.003 0.838 0.157 0.532 2.849	2.013 0.843 0.080 0.506 2.782	2.017 0.845 0.000 0.497 2.759	
0.90	1.877 0.763 0.379 0.933 3.636	1.908 0.783 0.361 0.820 3.453	1.938 0.800 0.329 0.720 3.271	1.965 0.815 0.284 0.638 3.100	1.988 0.826 0.226 0.574 2.953	2.005 0.834 0.157 0.529 2.840	2.015 0.839 0.080 0.503 2.770	2.019 0.841 0.000 0.494 2.746	
0.95	1.879 0.759 0.383 0.932 3.642	1.910 0.779 0.364 0.819 3.459	1.940 0.797 0.331 0.719 3.274	1.967 0.811 0.285 0.636 3.099	1.990 0.822 0.226 0.572 2.947	2.007 0.830 0.157 0.526 2.830	2.018 0.835 0.080 0.499 2.757	2.021 0.836 0.000 0.490 2.732	
1.00	1.882 0.755 0.385 0.931 3.648	1.912 0.776 0.366 0.819 3.464	1.942 0.793 0.333 0.719 3.276	1.969 0.808 0.286 0.635 3.097	1.992 0.818 0.227 0.570 2.941	2.009 0.826 0.157 0.523 2.819	2.020 0.830 0.080 0.496 2.743	2.024 0.832 0.000 0.487 2.716	
F_x	0.571	0.571	0.571	0.571	0.569	0.568	0.567	0.566	

$$M_{\infty} = 6, \beta_{\kappa} = 30^{\circ}, \alpha = 5^{\circ}$$

ξ	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.00	1.543	1.544	1.547	1.551	1.556	1.563	1.571	1.579	1.589
	0.891	0.891	0.893	0.895	0.898	0.902	0.907	0.912	0.917
	0.000	0.020	0.040	0.059	0.076	0.090	0.100	0.107	0.110
	1.939	1.929	1.902	1.859	1.801	1.733	1.657	1.578	1.498
0.05	4.739	4.723	4.676	4.599	4.498	4.375	4.239	4.093	3.946
	1.548	1.549	1.554	1.563	1.574	1.588	1.604	1.622	1.641
	0.883	0.884	0.887	0.892	0.898	0.907	0.916	0.927	0.938
	0.000	0.023	0.046	0.068	0.086	0.102	0.114	0.122	0.125
0.10	1.938	1.929	1.902	1.859	1.801	1.733	1.657	1.578	1.498
	4.734	4.728	4.699	4.652	4.590	4.517	4.437	4.355	4.277
	1.552	1.554	1.559	1.568	1.579	1.593	1.610	1.628	1.647
	0.875	0.876	0.879	0.885	0.891	0.900	0.910	0.921	0.932
0.15	0.000	0.025	0.050	0.073	0.094	0.111	0.124	0.132	0.136
	1.937	1.928	1.901	1.858	1.800	1.732	1.657	1.578	1.498
	4.736	4.727	4.699	4.655	4.596	4.527	4.451	4.373	4.296
	1.557	1.558	1.564	1.572	1.584	1.598	1.615	1.633	1.652
0.20	0.868	0.869	0.872	0.877	0.884	0.893	0.903	0.914	0.926
	0.000	0.027	0.053	0.077	0.099	0.117	0.131	0.140	0.144
	1.935	1.926	1.899	1.856	1.799	1.731	1.656	1.577	1.497
	4.733	4.724	4.698	4.655	4.599	4.532	4.459	4.383	4.308
0.25	1.561	1.563	1.568	1.577	1.589	1.603	1.620	1.638	1.657
	0.860	0.861	0.865	0.870	0.877	0.886	0.897	0.908	0.920
	0.000	0.028	0.056	0.081	0.104	0.123	0.137	0.147	0.151
	1.933	1.924	1.897	1.854	1.797	1.729	1.654	1.575	1.496
0.30	4.729	4.720	4.695	4.654	4.599	4.535	4.463	4.389	4.315
	1.566	1.567	1.573	1.581	1.593	1.608	1.624	1.642	1.662
	0.853	0.854	0.857	0.863	0.870	0.879	0.890	0.902	0.914
	0.000	0.029	0.058	0.084	0.108	0.128	0.143	0.153	0.157
0.35	1.930	1.921	1.894	1.851	1.794	1.727	1.652	1.573	1.494
	4.723	4.715	4.690	4.651	4.598	4.535	4.465	4.392	4.319
	1.570	1.572	1.577	1.586	1.598	1.612	1.629	1.647	1.666
	0.845	0.846	0.850	0.856	0.863	0.873	0.883	0.895	0.907
0.40	0.000	0.030	0.060	0.087	0.111	0.132	0.148	0.158	0.163
	1.926	1.917	1.890	1.848	1.791	1.724	1.650	1.571	1.492
	4.716	4.708	4.684	4.646	4.595	4.534	4.466	4.394	4.322
	1.575	1.576	1.582	1.590	1.602	1.617	1.633	1.651	1.670
0.45	0.838	0.839	0.843	0.849	0.856	0.866	0.877	0.889	0.901
	0.000	0.031	0.061	0.090	0.115	0.136	0.152	0.163	0.167
	1.921	1.912	1.886	1.844	1.788	1.721	1.647	1.568	1.490
	4.708	4.701	4.678	4.640	4.591	4.531	4.464	4.394	4.322
0.50	1.579	1.581	1.586	1.595	1.607	1.621	1.637	1.655	1.674
	0.831	0.832	0.836	0.842	0.850	0.859	0.870	0.883	0.895
	0.000	0.032	0.063	0.092	0.118	0.139	0.156	0.167	0.172
	1.916	1.907	1.881	1.839	1.783	1.717	1.643	1.565	1.487
0.55	4.699	4.692	4.669	4.633	4.585	4.527	4.461	4.392	4.321
	1.584	1.585	1.591	1.599	1.611	1.625	1.642	1.660	1.678
	0.824	0.825	0.829	0.835	0.843	0.853	0.864	0.876	0.889
	0.000	0.033	0.065	0.094	0.121	0.143	0.160	0.171	0.175
0.60	1.911	1.902	1.876	1.834	1.779	1.712	1.639	1.561	1.483
	4.689	4.682	4.660	4.625	4.578	4.521	4.457	4.389	4.318
	1.588	1.590	1.595	1.604	1.615	1.630	1.646	1.664	1.682
	0.816	0.818	0.822	0.828	0.836	0.846	0.858	0.870	0.883
0.65	0.000	0.033	0.066	0.096	0.123	0.146	0.163	0.174	0.179
	1.904	1.896	1.870	1.828	1.773	1.708	1.634	1.557	1.479
	4.678	4.671	4.650	4.616	4.570	4.515	4.452	4.384	4.314
	1.588	1.590	1.595	1.604	1.615	1.630	1.646	1.664	1.682

$$M_{\infty} = 6, \beta_K = 30^\circ, \alpha = 5''$$

ξ	θ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.55	1.593 0.809 0.000 1.897 4.666	1.594 0.811 0.034 1.889 4.659	1.600 0.815 0.067 1.863 4.638	1.608 0.821 0.098 1.822 4.605	1.620 0.829 0.126 1.767 4.561	1.634 0.840 0.149 1.702 4.507	1.650 0.851 0.166 1.629 4.445	1.668 0.864 0.178 1.552 4.378	1.686 0.877 0.182 1.475 4.309
0.60	1.597 0.802 0.000 1.890 4.652	1.599 0.804 0.035 1.881 4.646	1.604 0.808 0.069 1.856 4.626	1.613 0.814 0.100 1.815 4.594	1.624 0.823 0.128 1.761 4.551	1.638 0.833 0.151 1.696 4.498	1.654 0.845 0.169 1.624 4.437	1.672 0.858 0.181 1.548 4.372	1.690 0.871 0.186 1.470 4.303
0.65	1.602 0.795 0.000 1.882 4.638	1.603 0.797 0.035 1.873 4.632	1.609 0.801 0.070 1.848 4.613	1.617 0.807 0.102 1.808 4.581	1.628 0.816 0.130 1.754 4.539	1.642 0.827 0.154 1.690 4.488	1.658 0.839 0.172 1.618 4.428	1.676 0.852 0.184 1.542 4.363	1.694 0.866 0.188 1.465 4.296
0.70	1.606 0.789 0.000 1.873 4.623	1.608 0.790 0.036 1.865 4.616	1.613 0.794 0.071 1.840 4.598	1.621 0.801 0.104 1.800 4.568	1.633 0.810 0.132 1.747 4.527	1.646 0.820 0.156 1.683 4.476	1.662 0.833 0.174 1.612 4.418	1.680 0.846 0.186 1.536 4.355	1.698 0.860 0.191 1.460 4.287
0.75	1.611 0.782 0.000 1.864 4.606	1.612 0.783 0.036 1.856 4.600	1.618 0.787 0.072 1.831 4.582	1.626 0.794 0.105 1.791 4.553	1.637 0.803 0.134 1.739 4.513	1.651 0.814 0.158 1.675 4.464	1.666 0.827 0.177 1.605 4.407	1.684 0.840 0.189 1.530 4.344	1.702 0.854 0.194 1.454 4.278
0.80	1.615 0.775 0.000 1.854 4.589	1.617 0.776 0.037 1.846 4.583	1.622 0.780 0.073 1.822 4.566	1.630 0.787 0.107 1.782 4.537	1.641 0.797 0.136 1.730 4.499	1.655 0.808 0.161 1.668 4.451	1.671 0.821 0.179 1.598 4.395	1.688 0.834 0.191 1.523 4.333	1.706 0.848 0.196 1.448 4.267
0.85	1.620 0.768 0.000 1.844 4.570	1.622 0.769 0.038 1.836 4.565	1.627 0.774 0.074 1.812 4.548	1.635 0.781 0.108 1.773 4.521	1.646 0.790 0.138 1.721 4.483	1.659 0.801 0.163 1.659 4.436	1.675 0.814 0.181 1.590 4.382	1.692 0.828 0.194 1.516 4.321	1.709 0.843 0.198 1.441 4.255
0.90	1.625 0.761 0.000 1.833 4.551	1.626 0.762 0.038 1.825 4.545	1.631 0.767 0.075 1.801 4.529	1.639 0.774 0.109 1.763 4.503	1.650 0.784 0.140 1.712 4.466	1.663 0.795 0.165 1.650 4.421	1.679 0.808 0.184 1.582 4.367	1.696 0.822 0.196 1.508 4.307	1.713 0.837 0.200 1.434 4.243
0.95	1.629 0.754 0.000 1.821 4.530	1.631 0.756 0.038 1.813 4.525	1.636 0.760 0.076 1.790 4.509	1.644 0.767 0.111 1.752 4.484	1.655 0.777 0.141 1.702 4.449	1.668 0.789 0.166 1.641 4.404	1.683 0.802 0.186 1.573 4.352	1.700 0.817 0.198 1.501 4.293	1.717 0.831 0.202 1.427 4.229
1.00	1.634 0.747 0.000 1.809 4.508	1.636 0.749 0.039 1.801 4.503	1.641 0.753 0.077 1.778 4.488	1.648 0.761 0.112 1.741 4.464	1.659 0.771 0.143 1.691 4.430	1.672 0.783 0.168 1.631 4.387	1.687 0.796 0.187 1.564 4.336	1.704 0.811 0.200 1.492 4.278	1.721 0.826 0.204 1.419 4.215
F_x	0.695	0.695	0.695	0.695	0.695	0.695	0.694	0.694	0.693

$$M_{\infty} = 6, \beta_K = 30^\circ, \alpha = 5^\circ$$

ξ	θ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.00	1.598 0.922 0.108 1.422 3.802	1.607 0.928 0.102 1.351 3.667	1.616 0.933 0.092 1.289 3.546	1.623 0.937 0.078 1.237 3.443	1.629 0.940 0.061 1.195 3.360	1.634 0.943 0.042 1.165 3.300	1.637 0.945 0.021 1.147 3.264	1.746 1.008 0.000 1.141 4.028	1.638 0.945 0.000 1.141 3.251
0.05	1.661 0.950 0.123 1.422 4.206	1.680 0.961 0.117 1.351 4.145	1.699 0.972 0.105 1.289 4.099	1.716 0.982 0.090 1.237 4.066	1.730 0.990 0.071 1.195 4.045	1.741 0.996 0.049 1.165 4.034	1.747 1.000 0.025 1.147 4.029	1.750 1.001 0.000 1.140 4.027	
0.10	1.667 0.944 0.134 1.422 4.226	1.686 0.955 0.128 1.351 4.165	1.705 0.966 0.116 1.289 4.116	1.721 0.976 0.099 1.236 4.079	1.735 0.984 0.078 1.194 4.053	1.745 0.990 0.054 1.164 4.037	1.751 0.994 0.028 1.146 4.028	1.753 0.995 0.000 1.140 4.025	
0.15	1.672 0.938 0.143 1.421 4.238	1.691 0.950 0.136 1.350 4.176	1.709 0.960 0.123 1.288 4.125	1.725 0.970 0.106 1.235 4.085	1.739 0.978 0.084 1.193 4.056	1.749 0.984 0.058 1.163 4.037	1.755 0.988 0.029 1.145 4.026	1.757 0.989 0.000 1.139 4.022	
0.20	1.677 0.932 0.150 1.420 4.245	1.696 0.944 0.142 1.349 4.183	1.714 0.954 0.130 1.287 4.130	1.729 0.964 0.111 1.234 4.088	1.742 0.972 0.088 1.192 4.057	1.752 0.978 0.061 1.162 4.035	1.758 0.982 0.031 1.143 4.023	1.760 0.983 0.000 1.137 4.018	
0.25	1.681 0.926 0.156 1.418 4.250	1.700 0.938 0.148 1.348 4.187	1.718 0.949 0.135 1.285 4.133	1.733 0.958 0.116 1.232 4.089	1.746 0.966 0.092 1.190 4.055	1.756 0.972 0.063 1.160 4.032	1.762 0.976 0.032 1.141 4.018	1.764 0.977 0.000 1.135 4.013	
0.30	1.685 0.920 0.161 1.416 4.252	1.704 0.932 0.153 1.346 4.189	1.722 0.943 0.139 1.283 4.134	1.737 0.953 0.119 1.230 4.088	1.750 0.961 0.095 1.188 4.053	1.759 0.967 0.065 1.157 4.027	1.765 0.970 0.033 1.139 4.013	1.767 0.972 0.000 1.133 4.008	
0.35	1.689 0.914 0.166 1.414 4.253	1.708 0.926 0.158 1.343 4.189	1.725 0.937 0.143 1.281 4.133	1.741 0.947 0.123 1.228 4.086	1.753 0.955 0.097 1.185 4.049	1.763 0.961 0.067 1.155 4.022	1.769 0.965 0.034 1.136 4.006	1.771 0.966 0.000 1.130 4.001	
0.40	1.693 0.908 0.170 1.411 4.252	1.712 0.920 0.161 1.340 4.188	1.729 0.931 0.147 1.278 4.130	1.744 0.941 0.126 1.225 4.082	1.757 0.950 0.100 1.183 4.043	1.766 0.956 0.069 1.152 4.016	1.772 0.959 0.035 1.133 3.999	1.774 0.961 0.000 1.127 3.993	
0.45	1.697 0.902 0.174 1.408 4.250	1.716 0.914 0.165 1.337 4.185	1.733 0.926 0.150 1.275 4.127	1.748 0.936 0.129 1.222 4.077	1.760 0.944 0.102 1.179 4.037	1.770 0.950 0.070 1.149 4.008	1.775 0.954 0.036 1.130 3.990	1.777 0.955 0.000 1.124 3.985	
0.50	1.701 0.896 0.177 1.404 4.246	1.720 0.909 0.168 1.334 4.181	1.736 0.920 0.153 1.271 4.122	1.751 0.930 0.131 1.218 4.071	1.764 0.939 0.104 1.176 4.030	1.773 0.945 0.072 1.145 4.000	1.779 0.949 0.036 1.127 3.981	1.781 0.950 0.000 1.120 3.975	

$$M_{\infty} = 6, \beta_{\kappa} = 30^{\circ}, \alpha = 5^{\circ}$$

σ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.55	1.705	1.723	1.740	1.755	1.767	1.776	1.782	1.784	
	0.890	0.903	0.915	0.925	0.933	0.940	0.944	0.945	
	0.180	0.171	0.155	0.133	0.105	0.073	0.037	0.000	
	1.400	1.330	1.268	1.214	1.172	1.141	1.123	1.116	
	4.241	4.175	4.116	4.064	4.022	3.990	3.971	3.965	
0.60	1.709	1.727	1.744	1.758	1.771	1.780	1.785	1.787	
	0.885	0.898	0.909	0.920	0.928	0.935	0.938	0.940	
	0.183	0.174	0.158	0.135	0.107	0.074	0.038	0.000	
	1.396	1.326	1.263	1.210	1.168	1.137	1.118	1.112	
	4.235	4.169	4.108	4.056	4.012	3.980	3.961	3.954	
0.65	1.713	1.731	1.747	1.762	1.774	1.783	1.789	1.791	
	0.879	0.892	0.904	0.914	0.923	0.929	0.933	0.935	
	0.186	0.177	0.160	0.137	0.108	0.075	0.038	0.000	
	1.391	1.321	1.259	1.206	1.163	1.133	1.114	1.108	
	4.227	4.161	4.100	4.047	4.002	3.969	3.949	3.942	
0.70	1.716	1.734	1.751	1.765	1.777	1.786	1.792	1.794	
	0.874	0.887	0.899	0.909	0.918	0.924	0.928	0.930	
	0.189	0.179	0.162	0.139	0.110	0.076	0.038	0.000	
	1.386	1.316	1.254	1.201	1.159	1.128	1.109	1.103	
	4.219	4.153	4.091	4.037	3.991	3.958	3.937	3.930	
0.75	1.720	1.738	1.754	1.769	1.781	1.790	1.795	1.797	
	0.868	0.881	0.893	0.904	0.913	0.919	0.923	0.925	
	0.191	0.181	0.164	0.140	0.111	0.076	0.039	0.000	
	1.380	1.311	1.249	1.196	1.154	1.123	1.104	1.098	
	4.210	4.143	4.081	4.026	3.980	3.945	3.923	3.916	
0.80	1.724	1.741	1.758	1.772	1.784	1.793	1.799	1.800	
	0.862	0.876	0.888	0.899	0.908	0.914	0.918	0.919	
	0.193	0.183	0.166	0.142	0.112	0.077	0.039	0.000	
	1.374	1.305	1.243	1.191	1.148	1.117	1.098	1.092	
	4.199	4.133	4.070	4.014	3.967	3.931	3.909	3.902	
0.85	1.728	1.745	1.761	1.776	1.788	1.796	1.802	1.804	
	0.857	0.870	0.883	0.894	0.903	0.909	0.913	0.914	
	0.196	0.185	0.168	0.143	0.113	0.078	0.040	0.000	
	1.368	1.299	1.238	1.185	1.142	1.111	1.093	1.086	
	4.188	4.121	4.058	4.001	3.953	3.917	3.895	3.887	
0.90	1.731	1.749	1.765	1.779	1.791	1.800	1.805	1.807	
	0.851	0.865	0.878	0.889	0.897	0.904	0.908	0.909	
	0.198	0.187	0.169	0.144	0.114	0.079	0.040	0.000	
	1.361	1.293	1.232	1.179	1.136	1.105	1.086	1.080	
	4.176	4.109	4.045	3.987	3.939	3.902	3.879	3.871	
0.95	1.735	1.752	1.768	1.783	1.794	1.803	1.809	1.810	
	0.846	0.860	0.872	0.883	0.892	0.899	0.903	0.904	
	0.199	0.189	0.171	0.146	0.115	0.079	0.040	0.000	
	1.354	1.286	1.225	1.172	1.130	1.099	1.080	1.074	
	4.162	4.095	4.031	3.973	3.923	3.886	3.862	3.854	
1.00	1.739	1.756	1.772	1.786	1.798	1.807	1.812	1.814	
	0.840	0.854	0.867	0.878	0.887	0.894	0.898	0.899	
	0.201	0.190	0.172	0.147	0.116	0.080	0.040	0.000	
	1.347	1.279	1.218	1.166	1.123	1.092	1.073	1.067	
	4.148	4.081	4.016	3.957	3.907	3.869	3.845	3.837	
F_x	0.692	0.691	0.690	0.689	0.688	0.687	0.687	0.687	

$$M_{\infty} = 6, \beta_K = 30^\circ, \alpha = 10^\circ$$

ξ	θ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.00	1.420	1.422	1.427	1.435	1.447	1.462	1.479	1.499	1.520
	0.819	0.821	0.824	0.829	0.835	0.844	0.854	0.865	0.877
	0.000	0.042	0.084	0.123	0.158	0.188	0.213	0.230	0.239
	2.379	2.358	2.296	2.197	2.069	1.920	1.758	1.593	1.433
	4.977	4.946	4.853	4.703	4.506	4.272	4.013	3.741	3.471
0.05	1.425	1.428	1.437	1.452	1.472	1.497	1.526	1.560	1.596
	0.811	0.813	0.818	0.827	0.839	0.854	0.871	0.891	0.912
	0.000	0.047	0.092	0.134	0.172	0.205	0.230	0.247	0.255
	2.379	2.357	2.296	2.197	2.070	1.921	1.759	1.595	1.435
	4.977	4.953	4.883	4.771	4.624	4.449	4.258	4.062	3.873
0.10	1.430	1.433	1.442	1.458	1.479	1.505	1.536	1.570	1.607
	0.802	0.804	0.810	0.819	0.832	0.848	0.867	0.887	0.909
	0.000	0.050	0.098	0.143	0.184	0.218	0.245	0.263	0.272
	2.377	2.356	2.295	2.197	2.070	1.921	1.760	1.596	1.437
	4.975	4.953	4.887	4.783	4.645	4.482	4.303	4.118	3.939
0.15	1.435	1.438	1.448	1.464	1.485	1.512	1.544	1.578	1.616
	0.794	0.796	0.802	0.812	0.829	0.842	0.861	0.883	0.905
	0.000	0.052	0.103	0.150	0.193	0.229	0.257	0.276	0.286
	2.375	2.354	2.293	2.196	2.069	1.921	1.761	1.597	1.438
	4.971	4.950	4.889	4.790	4.660	4.504	4.333	4.157	3.984
0.20	1.440	1.443	1.453	1.469	1.491	1.518	1.550	1.585	1.623
	0.785	0.788	0.794	0.804	0.818	0.836	0.856	0.878	0.901
	0.000	0.054	0.107	0.157	0.201	0.238	0.268	0.288	0.298
	2.372	2.351	2.290	2.194	2.068	1.921	1.761	1.598	1.439
	4.967	4.947	4.888	4.794	4.670	4.522	4.358	4.187	4.020
0.25	1.445	1.448	1.458	1.475	1.497	1.524	1.556	1.591	1.629
	0.777	0.779	0.786	0.797	0.811	0.829	0.850	0.872	0.896
	0.000	0.056	0.111	0.163	0.208	0.247	0.278	0.299	0.309
	2.368	2.347	2.287	2.191	2.066	1.920	1.761	1.598	1.439
	4.961	4.942	4.886	4.796	4.677	4.535	4.377	4.212	4.049
0.30	1.450	1.453	1.463	1.480	1.502	1.530	1.562	1.597	1.634
	0.769	0.771	0.778	0.789	0.804	0.822	0.843	0.867	0.891
	0.000	0.058	0.115	0.168	0.215	0.255	0.286	0.308	0.319
	2.363	2.343	2.283	2.188	2.064	1.918	1.760	1.598	1.440
	4.953	4.935	4.882	4.797	4.683	4.546	4.394	4.233	4.074
0.35	1.455	1.458	1.469	1.485	1.507	1.535	1.567	1.602	1.639
	0.761	0.763	0.770	0.781	0.797	0.816	0.837	0.861	0.886
	0.000	0.060	0.118	0.173	0.221	0.262	0.295	0.317	0.328
	2.358	2.337	2.278	2.184	2.061	1.916	1.759	1.598	1.440
	4.945	4.928	4.877	4.795	4.686	4.555	4.407	4.252	4.096
0.40	1.460	1.464	1.474	1.490	1.512	1.540	1.572	1.607	1.644
	0.752	0.755	0.762	0.774	0.790	0.809	0.831	0.855	0.880
	0.000	0.062	0.122	0.177	0.227	0.269	0.302	0.325	0.336
	2.351	2.331	2.273	2.179	2.057	1.914	1.758	1.597	1.440
	4.935	4.919	4.871	4.792	4.688	4.561	4.419	4.268	4.115
0.45	1.465	1.469	1.479	1.495	1.517	1.545	1.577	1.612	1.649
	0.744	0.747	0.754	0.766	0.783	0.802	0.825	0.850	0.875
	0.000	0.063	0.125	0.182	0.233	0.276	0.309	0.332	0.344
	2.344	2.324	2.266	2.174	2.053	1.911	1.756	1.596	1.439
	4.925	4.909	4.863	4.788	4.688	4.566	4.428	4.281	4.131
0.50	1.470	1.474	1.484	1.500	1.522	1.550	1.581	1.616	1.653
	0.736	0.739	0.746	0.759	0.776	0.796	0.819	0.844	0.870
	0.000	0.065	0.127	0.186	0.238	0.282	0.316	0.339	0.351
	2.336	2.317	2.259	2.168	2.048	1.907	1.753	1.595	1.439
	4.913	4.898	4.854	4.782	4.686	4.569	4.436	4.293	4.146

$$M_{\infty} = 6, \beta_K = 30^\circ, \alpha = 10^\circ$$

ξ	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.55	1.475 0.728 0.000 2.328 4.900	1.479 0.731 0.066 2.328 4.885	1.489 0.739 0.130 2.252 4.844	1.505 0.751 0.190 2.161 4.776	1.527 0.769 0.243 2.043 4.684	1.554 0.789 0.288 1.903 4.571	1.586 0.813 0.322 1.751 4.443	1.620 0.838 0.346 1.593 4.303	1.657 0.865 0.357 1.438 4.158
0.60	1.481 0.720 0.000 2.318 4.885	1.484 0.723 0.067 2.299 4.872	1.494 0.731 0.133 2.243 4.832	1.510 0.744 0.194 2.154 4.767	1.532 0.762 0.248 2.037 4.679	1.559 0.783 0.293 1.899 4.572	1.590 0.807 0.328 1.747 4.447	1.625 0.833 0.352 1.591 4.312	1.611 0.860 0.363 1.436 4.170
0.65	1.486 0.712 0.000 2.308 4.870	1.489 0.715 0.069 2.289 4.857	1.499 0.723 0.135 2.234 4.820	1.515 0.737 0.197 2.146 4.758	1.537 0.755 0.252 2.030 4.674	1.564 0.776 0.298 1.894 4.571	1.595 0.801 0.334 1.744 4.451	1.629 0.827 0.358 1.588 4.319	1.665 0.855 0.369 1.435 4.179
0.70	1.491 0.704 0.000 2.297 4.853	1.494 0.707 0.070 2.279 4.841	1.504 0.716 0.138 2.224 4.806	1.520 0.729 0.201 2.137 4.747	1.542 0.748 0.257 2.023 4.668	1.568 0.770 0.303 1.888 4.569	1.599 0.795 0.339 1.740 4.453	1.633 0.822 0.364 1.586 4.325	1.669 0.850 0.375 1.433 4.187
0.75	1.496 0.697 0.000 2.286 4.836	1.499 0.700 0.071 2.267 4.824	1.509 0.708 0.140 2.214 4.791	1.525 0.722 0.204 2.128 4.736	1.546 0.741 0.261 2.015 4.660	1.573 0.764 0.308 1.882 4.565	1.603 0.789 0.361 1.735 4.454	1.637 0.817 0.369 1.583 4.329	1.672 0.845 0.380 1.431 4.194
0.80	1.501 0.689 0.000 2.273 4.817	1.505 0.692 0.072 2.255 4.806	1.514 0.701 0.142 2.203 4.775	1.530 0.715 0.207 2.118 4.723	1.551 0.734 0.265 2.007 4.651	1.577 0.757 0.313 1.876 4.561	1.607 0.783 0.350 1.730 4.454	1.640 0.811 0.374 1.579 4.332	1.676 0.840 0.385 1.429 4.200
0.85	1.507 0.681 0.000 2.260 4.797	1.510 0.684 0.073 2.242 4.787	1.519 0.693 0.144 2.191 4.758	1.535 0.708 0.210 2.108 4.709	1.556 0.727 0.269 1.998 4.641	1.581 0.751 0.317 1.868 4.555	1.611 0.777 0.354 1.725 4.452	1.644 0.806 0.379 1.575 4.335	1.679 0.835 0.390 1.426 4.205
0.90	1.512 0.673 0.000 2.246 4.776	1.515 0.676 0.074 2.229 4.767	1.525 0.685 0.146 2.178 4.739	1.540 0.700 0.213 2.096 4.693	1.560 0.720 0.272 1.989 4.629	1.586 0.744 0.321 1.861 4.548	1.615 0.772 0.359 1.720 4.449	1.648 0.801 0.384 1.571 4.336	1.683 0.830 0.394 1.423 4.208
0.95	1.518 0.665 0.000 2.232 4.753	1.521 0.668 0.075 2.215 4.745	1.530 0.678 0.148 2.165 4.719	1.545 0.693 0.216 2.085 4.677	1.565 0.714 0.276 1.979 4.617	1.590 0.738 0.326 1.853 4.540	1.619 0.766 0.363 1.713 4.446	1.652 0.795 0.388 1.567 4.335	1.686 0.825 0.399 1.420 4.211
1.00	1.523 0.657 0.000 2.216 4.730	1.526 0.661 0.076 2.200 4.722	1.535 0.670 0.150 2.151 4.698	1.550 0.686 0.219 2.072 4.659	1.570 0.707 0.279 1.968 4.603	1.595 0.732 0.330 1.844 4.530	1.623 0.760 0.368 1.707 4.440	1.655 0.790 0.392 1.562 4.334	1.689 0.820 0.403 1.416 4.212
F_x	0.703	0.703	0.703	0.704	0.704	0.704	0.705	0.705	0.704

$$M_{\infty} = 6, \beta_K = 30^\circ, \alpha = 10^\circ$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.00	1.541 0.890 0.239 1.286 3.212	1.563 0.902 0.228 1.155 2.976	1.584 0.914 0.206 1.044 2.772	1.602 0.925 0.174 0.956 2.603	1.617 0.933 0.134 0.890 2.475	1.628 0.940 0.090 0.845 2.385	1.634 0.943 0.045 0.818 2.332	1.824 1.053 0.000 0.810 3.519	1.637 0.945 0.000 0.810 2.315
0.05	1.634 0.934 0.253 1.287 3.703	1.672 0.957 0.241 1.156 3.566	1.711 0.979 0.219 1.045 3.472	1.748 1.001 0.187 0.957 3.429	1.780 1.020 0.148 0.890 3.433	1.806 1.034 0.103 0.845 3.467	1.822 1.044 0.053 0.818 3.504	1.828 1.047 0.000 0.810 3.518	
0.10	1.646 0.932 0.271 1.288 3.777	1.685 0.956 0.259 1.157 3.644	1.722 0.978 0.237 1.056 3.548	1.758 0.998 0.205 0.957 3.496	1.788 1.016 0.164 0.890 3.482	1.811 1.030 0.115 0.844 3.493	1.826 1.038 0.059 0.818 3.510	1.831 1.041 0.000 0.809 3.517	
0.15	1.654 0.929 0.285 1.290 3.827	1.693 0.952 0.274 1.158 3.695	1.730 0.974 0.251 1.047 3.597	1.764 0.995 0.219 0.957 3.537	1.793 1.012 0.176 0.890 3.511	1.816 1.025 0.123 0.844 3.507	1.829 1.033 0.064 0.817 3.511	1.834 1.036 0.000 0.808 3.514	
0.20	1.661 0.925 0.298 1.291 3.866	1.700 0.948 0.286 1.159 3.735	1.736 0.970 0.263 1.047 3.634	1.770 0.990 0.229 0.958 3.566	1.798 1.007 0.185 0.890 3.530	1.819 1.020 0.130 0.843 3.515	1.833 1.028 0.067 0.816 3.511	1.837 1.031 0.000 0.807 3.510	
0.25	1.667 0.920 0.309 1.291 3.898	1.705 0.944 0.297 1.160 3.766	1.742 0.966 0.273 1.048 3.662	1.775 0.986 0.238 0.957 3.589	1.802 1.003 0.192 0.889 3.544	1.823 1.015 0.135 0.842 3.520	1.836 1.023 0.070 0.815 3.509	1.840 1.026 0.000 0.806 3.506	
0.30	1.673 0.915 0.318 1.292 3.924	1.711 0.939 0.306 1.160 3.793	1.747 0.961 0.282 1.048 3.685	1.779 0.981 0.246 0.957 3.606	1.806 0.998 0.198 0.888 3.554	1.826 1.011 0.139 0.841 3.522	1.839 1.018 0.072 0.813 3.506	1.843 1.021 0.000 0.804 3.500	
0.35	1.678 0.910 0.327 1.292 3.948	1.715 0.934 0.315 1.160 3.815	1.751 0.957 0.290 1.048 3.705	1.783 0.977 0.252 0.956 3.620	1.810 0.993 0.203 0.887 3.561	1.829 1.006 0.142 0.839 3.523	1.842 1.014 0.073 0.811 3.501	1.846 1.017 0.000 0.802 3.494	
0.40	1.682 0.905 0.335 1.292 3.968	1.720 0.930 0.322 1.160 3.834	1.755 0.952 0.296 1.047 3.721	1.787 0.972 0.258 0.956 3.631	1.813 0.989 0.207 0.886 3.566	1.832 1.001 0.145 0.838 3.522	1.844 1.009 0.075 0.809 3.496	1.849 1.012 0.000 0.800 3.488	
0.45	1.686 0.901 0.343 1.292 3.985	1.724 0.925 0.329 1.160 3.851	1.759 0.948 0.303 1.047 3.735	1.790 0.968 0.263 0.955 3.640	1.816 0.984 0.211 0.885 3.569	1.835 0.997 0.148 0.836 3.519	1.847 1.005 0.076 0.807 3.490	1.851 1.008 0.000 0.798 3.480	
0.50	1.690 0.896 0.350 1.292 4.001	1.728 0.920 0.335 1.160 3.866	1.762 0.943 0.308 1.046 3.747	1.793 0.963 0.268 0.954 3.647	1.819 0.980 0.215 0.883 3.570	1.838 0.992 0.150 0.834 3.516	1.850 1.000 0.077 0.805 3.483	1.854 1.003 0.000 0.795 3.472	

$$M_{\infty} = 6, \beta_k = 30^\circ, \alpha = 10^\circ$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.55	1.694 0.891 0.356 1.291 4.015	1.731 0.916 0.341 1.159 3.879	1.766 0.939 0.313 1.045 3.756	1.797 0.959 0.272 0.952 3.653	1.822 0.975 0.218 0.881 3.571	1.841 0.988 0.152 0.831 3.511	1.853 0.996 0.078 0.802 3.476	1.857 0.999 0.000 0.792 3.463	
0.60	1.698 0.886 0.362 1.290 4.027	1.735 0.911 0.347 1.158 3.890	1.769 0.934 0.318 1.044 3.765	1.800 0.954 0.276 0.951 3.657	1.825 0.971 0.220 0.879 3.570	1.844 0.984 0.154 0.829 3.506	1.856 0.992 0.079 0.799 3.467	1.859 0.995 0.000 0.789 3.454	
0.65	1.702 0.881 0.367 1.289 4.037	1.738 0.907 0.352 1.157 3.899	1.772 0.930 0.322 1.043 3.772	1.803 0.950 0.279 0.949 3.659	1.828 0.967 0.223 0.877 3.568	1.847 0.980 0.155 0.826 3.500	1.858 0.988 0.080 0.796 3.458	1.862 0.990 0.000 0.786 3.444	
0.70	1.705 0.877 0.373 1.288 4.047	1.741 0.902 0.356 1.156 3.908	1.775 0.926 0.326 1.042 3.777	1.806 0.946 0.282 0.947 3.661	1.831 0.963 0.225 0.874 3.565	1.849 0.976 0.157 0.823 3.493	1.861 0.984 0.080 0.793 3.448	1.865 0.986 0.000 0.783 3.433	
0.75	1.709 0.872 0.377 1.286 4.055	1.744 0.898 0.361 1.155 3.915	1.778 0.922 0.330 1.040 3.781	1.809 0.942 0.285 0.945 3.661	1.834 0.959 0.227 0.872 3.561	1.852 0.971 0.158 0.820 3.485	1.864 0.979 0.081 0.789 3.438	1.867 0.982 0.000 0.779 3.422	
0.80	1.712 0.868 0.382 1.285 4.061	0.748 0.894 0.365 1.153 3.921	0.781 0.917 0.333 1.038 3.785	1.811 0.938 0.287 0.943 3.661	1.836 0.955 0.229 0.869 3.556	1.855 0.967 0.159 0.817 3.476	1.866 0.975 0.081 0.786 3.427	1.870 0.978 0.000 0.775 3.410	
0.85	1.715 0.863 0.386 1.283 4.067	1.751 0.890 0.368 1.152 3.925	1.784 0.913 0.336 1.036 3.787	1.814 0.934 0.290 0.941 3.659	1.839 0.951 0.230 0.866 3.550	1.858 0.963 0.160 0.813 3.467	1.869 0.971 0.082 0.782 3.415	1.873 0.974 0.000 0.771 3.497	
0.90	1.718 0.859 0.390 1.281 4.071	1.753 0.885 0.372 1.150 3.929	1.787 0.909 0.339 1.034 3.788	1.817 0.930 0.292 0.938 3.657	1.842 0.947 0.232 0.863 3.543	1.860 0.959 0.161 0.809 3.456	1.872 0.967 0.082 0.778 3.402	1.876 0.970 0.000 0.767 3.483	
0.95	1.721 0.854 0.394 1.278 4.075	1.756 0.881 0.375 1.148 3.932	1.790 0.905 0.341 1.032 3.789	1.819 0.926 0.294 0.935 3.653	1.844 0.943 0.233 0.859 3.536	1.863 0.955 0.162 0.805 3.445	1.874 0.963 0.083 0.773 3.388	1.878 0.966 0.000 0.763 3.369	
1.00	1.724 0.850 0.398 1.276 4.077	1.759 0.877 0.378 1.145 3.934	1.792 0.902 0.344 1.030 3.788	1.822 0.922 0.295 0.932 3.649	1.847 0.939 0.234 0.856 3.528	1.866 0.951 0.162 0.801 3.434	1.877 0.959 0.083 0.769 3.374	1.881 0.962 0.000 0.758 3.354	
F_x	0.703	0.702	0.699	0.697	0.693	0.691	0.689	0.688	

$$M_{\infty} = 6, \beta_k = 30^\circ, \alpha = 20^\circ$$

ξ	θ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.00	1.123	1.127	1.139	1.157	1.183	1.216	1.255	1.297	1.346
	0.648	0.651	0.657	0.668	0.683	0.702	0.724	0.748	0.777
	0.000	0.088	0.174	0.257	0.335	0.406	0.465	0.520	0.554
	3.253	3.202	3.051	2.826	2.535	2.206	1.868	1.539	1.239
	5.275	5.217	5.040	4.771	4.415	3.998	3.549	3.092	2.648
0.05	1.129	1.135	1.147	1.172	1.207	1.249	1.298	1.353	1.411
	0.637	0.641	0.648	0.663	0.684	0.709	0.738	0.772	0.807
	0.000	0.092	0.181	0.266	0.344	0.415	0.471	0.521	0.543
	3.252	3.202	3.058	2.829	2.540	2.213	1.876	1.549	1.249
	5.272	5.203	5.120	4.876	4.537	4.135	3.731	3.263	2.906
0.10	1.136	1.140	1.159	1.185	1.219	1.263	1.316	1.373	1.436
	0.626	0.629	0.641	0.657	0.679	0.707	0.739	0.776	0.815
	0.000	0.096	0.188	0.277	0.357	0.427	0.484	0.528	0.555
	3.250	3.201	3.057	2.831	2.544	2.220	1.884	1.558	1.259
	5.271	5.214	5.097	4.863	4.551	4.188	3.795	3.381	2.985
0.15	1.144	1.147	1.164	1.194	1.231	1.276	1.329	1.389	1.454
	0.616	0.619	0.630	0.649	0.673	0.703	0.738	0.777	0.819
	0.000	0.099	0.196	0.286	0.367	0.439	0.497	0.539	0.565
	3.247	3.198	3.056	2.832	2.547	2.226	1.892	1.568	1.269
	5.272	5.220	5.089	4.877	4.585	4.237	3.858	3.463	3.073
0.20	1.150	1.155	1.171	1.199	1.239	1.286	1.341	1.401	1.467
	0.606	0.609	0.621	0.639	0.666	0.698	0.735	0.777	0.821
	0.000	0.102	0.202	0.295	0.378	0.450	0.509	0.551	0.576
	3.242	3.194	3.052	2.831	2.550	2.231	1.900	1.577	1.278
	5.267	5.222	5.089	4.879	4.610	4.282	3.917	3.536	3.157
0.25	1.155	1.162	1.177	1.205	1.245	1.294	1.350	1.412	1.478
	0.595	0.599	0.610	0.630	0.658	0.693	0.732	0.776	0.822
	0.000	0.105	0.208	0.303	0.388	0.462	0.521	0.563	0.588
	3.236	3.189	3.048	2.831	2.552	2.237	1.908	1.586	1.289
	5.256	5.219	5.086	4.888	4.630	4.320	3.972	3.604	3.236
0.30	1.161	1.168	1.185	1.212	1.252	1.302	1.359	1.421	1.488
	0.584	0.589	0.601	0.622	0.651	0.687	0.729	0.774	0.822
	0.000	0.108	0.213	0.311	0.399	0.473	0.533	0.575	0.599
	3.229	3.182	3.043	2.829	2.554	2.241	1.915	1.596	1.299
	5.245	5.210	5.088	4.898	4.651	4.355	4.023	3.669	3.311
0.35	1.167	1.174	1.192	1.220	1.259	1.309	1.366	1.429	1.496
	0.574	0.579	0.592	0.614	0.644	0.682	0.725	0.772	0.822
	0.000	0.111	0.218	0.319	0.409	0.485	0.545	0.587	0.611
	3.221	3.175	3.038	2.827	2.555	2.246	1.922	1.605	1.309
	5.235	5.201	5.093	4.913	4.674	4.389	4.072	3.731	3.383
0.40	1.173	1.180	1.197	1.227	1.267	1.315	1.373	1.435	1.503
	0.563	0.568	0.582	0.606	0.637	0.676	0.721	0.770	0.822
	0.000	0.113	0.224	0.326	0.418	0.496	0.557	0.599	0.622
	3.212	3.166	3.033	2.823	2.555	2.250	1.929	1.614	1.320
	5.223	5.192	5.085	4.920	4.695	4.422	4.119	3.791	3.454
0.45	1.180	1.186	1.206	1.234	1.273	1.322	1.379	1.441	1.509
	0.553	0.558	0.574	0.598	0.631	0.671	0.717	0.768	0.821
	0.000	0.116	0.229	0.334	0.428	0.507	0.568	0.611	0.634
	3.201	3.156	3.027	2.819	2.555	2.253	1.936	1.624	1.331
	5.212	5.180	5.091	4.928	4.714	4.454	4.164	3.849	3.523
0.50	1.187	1.193	1.210	1.241	1.280	1.328	1.385	1.447	1.514
	0.543	0.549	0.564	0.590	0.624	0.665	0.713	0.766	0.820
	0.000	0.119	0.234	0.341	0.437	0.517	0.580	0.623	0.645
	3.190	3.146	3.018	2.814	2.554	2.256	1.943	1.633	1.342
	5.198	5.170	5.077	4.933	4.732	4.485	4.208	3.906	3.591

$$M_{\infty} = 6, \beta_{\kappa} = 30^{\circ}, \alpha = 20^{\circ}$$

ξ	θ								
	0°00'	11°15'	22°30'	33°45'	45°00'	53°15'	67°30'	78°45'	90°00'
0.55	1.193 0.533 0.050 3.177 5.184	1.199 0.539 0.122 3.134 5.156	1.218 0.555 0.239 3.007 5.075	1.247 0.581 0.349 2.808 4.935	1.286 0.617 0.446 2.552 4.748	1.334 0.660 0.528 2.259 4.515	1.390 0.709 0.591 1.950 4.251	1.452 0.764 0.634 1.643 3.963	1.518 0.819 0.656 1.353 3.659
0.60	1.200 0.524 0.000 3.163 5.169	1.206 0.529 0.124 3.121 5.143	1.224 0.546 0.244 2.996 5.063	1.253 0.573 0.356 2.801 4.938	1.292 0.610 0.455 2.550 4.763	1.339 0.654 0.538 2.262 4.544	1.395 0.705 0.602 1.956 4.294	1.456 0.761 0.645 1.653 4.018	1.522 0.819 0.667 1.365 3.725
0.65	1.207 0.514 0.000 3.148 5.152	1.213 0.520 0.127 3.107 5.128	1.230 0.537 0.250 2.984 5.054	1.259 0.565 0.363 2.794 4.938	1.298 0.603 0.464 2.547 4.776	1.345 0.649 0.548 2.264 4.572	1.399 0.702 0.613 1.963 4.335	1.460 0.759 0.657 1.663 4.074	1.525 0.818 0.678 1.377 3.792
0.70	1.214 0.504 0.000 3.133 5.134	1.219 0.510 0.129 3.092 5.111	1.237 0.528 0.254 2.973 5.046	1.265 0.557 0.370 2.786 4.937	1.303 0.596 0.473 2.544 4.788	1.350 0.643 0.558 2.265 4.598	1.404 0.698 0.624 1.969 4.377	1.464 0.756 0.668 1.673 4.128	1.528 0.817 0.689 1.389 3.858
0.75	1.220 0.494 0.000 3.116 5.114	1.226 0.500 0.132 3.070 5.094	1.243 0.519 0.259 2.960 5.034	1.271 0.549 0.377 2.777 4.936	1.309 0.589 0.481 2.540 4.798	1.355 0.638 0.568 2.267 4.624	1.408 0.694 0.635 1.975 4.417	1.467 0.754 0.678 1.683 4.183	1.530 0.816 0.699 1.402 3.924
0.80	1.227 0.485 0.000 3.098 5.093	1.233 0.491 0.134 3.059 5.075	1.249 0.510 0.264 2.949 5.025	1.277 0.541 0.384 2.767 4.932	1.314 0.582 0.490 2.535 4.808	1.359 0.632 0.578 2.267 4.648	1.412 0.690 0.645 1.981 4.457	1.470 0.752 0.689 1.693 4.237	1.532 0.815 0.709 1.415 3.990
0.85	1.234 0.475 0.000 3.078 5.071	1.240 0.481 0.137 3.041 5.054	1.256 0.500 0.269 2.928 5.002	1.283 0.532 0.391 2.756 4.927	1.319 0.575 0.498 2.530 4.816	1.364 0.627 0.587 2.268 4.672	1.415 0.686 0.655 1.987 4.496	1.472 0.749 0.700 1.703 4.290	1.534 0.814 0.719 1.428 4.056
0.90	1.241 0.465 0.000 3.058 5.047	1.246 0.472 0.139 3.022 5.033	1.263 0.492 0.274 2.917 4.997	1.289 0.524 0.398 2.744 4.922	1.324 0.568 0.507 2.524 4.823	1.368 0.622 0.597 2.268 4.694	1.419 0.682 0.666 1.993 4.534	1.474 0.747 0.710 1.713 4.344	1.535 0.813 0.729 1.441 4.122
0.95	1.248 0.455 0.000 3.036 5.021	1.253 0.462 0.142 3.001 5.010	1.268 0.482 0.278 2.895 4.968	1.295 0.516 0.405 2.732 4.914	1.330 0.561 0.515 2.518 4.829	1.372 0.616 0.606 2.267 4.715	1.422 0.678 0.676 1.998 4.572	1.477 0.744 0.720 1.723 4.397	1.536 0.812 0.739 1.455 4.188
1.00	1.255 0.446 0.000 3.014 4.995 0.732	1.260 0.453 0.144 2.980 4.985 0.732	1.277 0.474 0.283 2.876 4.955 0.733	1.301 0.508 0.411 2.719 4.906 0.737	1.335 0.554 0.523 2.510 4.834 0.740	1.377 0.610 0.616 2.266 4.735 0.744	1.425 0.674 0.686 2.003 4.609 0.750	1.478 0.742 0.730 1.734 4.450 0.757	1.536 0.811 0.749 1.469 4.255 0.763

$$M_{\infty} = 6, \beta_K = 30^\circ, \alpha = 20^\circ$$

ξ	θ								
	101°15'	11°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.00	1.396	1.450	1.500	1.553	1.598	1.639	1.669	1.921	1.671
	0.806	0.837	0.866	0.897	0.923	0.946	0.963	1.109	0.965
	0.580	0.584	0.583	0.539	0.479	0.351	0.105	0.000	0.000
	0.979	0.765	0.597	0.474	0.394	0.355	0.345	0.345	0.345
	2.238	1.876	1.572	1.332	1.168	1.084	1.063	2.249	1.063
0.05	1.475	1.541	1.604	1.674	1.736	1.806	1.891	1.925	
	0.845	0.885	0.922	0.962	1.000	1.042	1.088	1.104	
	0.563	0.561	0.527	0.472	0.394	0.249	0.124	0.000	
	0.988	0.773	0.604	0.479	0.397	0.356	0.345	0.345	
	2.468	2.104	1.864	1.685	1.522	1.517	1.974	2.248	
0.10	1.503	1.572	1.640	1.711	1.778	1.846	1.906	1.927	
	0.856	0.898	0.940	0.981	1.020	1.060	1.090	1.100	
	0.565	0.556	0.524	0.470	0.381	0.262	0.145	0.000	
	0.998	0.781	0.610	0.483	0.400	0.357	0.346	0.345	
	2.600	2.259	1.988	1.799	1.679	1.763	2.084	2.247	
0.15	1.523	1.593	1.663	1.735	1.801	1.865	1.913	1.929	
	0.862	0.906	0.950	0.991	1.030	1.065	1.089	1.096	
	0.573	0.560	0.528	0.474	0.388	0.278	0.157	0.000	
	1.007	0.790	0.617	0.488	0.403	0.359	0.346	0.344	
	2.705	2.376	2.100	1.906	1.807	1.896	2.135	2.245	
0.20	1.537	1.608	1.680	1.751	1.817	1.876	1.918	1.931	
	0.866	0.912	0.956	0.997	1.035	1.066	1.087	1.094	
	0.582	0.568	0.535	0.480	0.396	0.292	0.165	0.000	
	1.017	0.798	0.624	0.493	0.406	0.360	0.346	0.344	
	2.798	2.475	2.204	2.009	1.913	1.985	2.166	2.243	
0.25	1.549	1.620	1.692	1.763	1.827	1.884	1.921	1.932	
	0.869	0.916	0.960	1.001	1.037	1.065	1.085	1.091	
	0.593	0.577	0.543	0.487	0.405	0.303	0.170	0.000	
	1.027	0.807	0.631	0.499	0.409	0.361	0.346	0.343	
	2.884	2.567	2.298	2.102	2.000	2.049	2.185	2.241	
0.30	1.558	1.630	1.702	1.772	1.835	1.890	1.923	1.933	
	0.871	0.919	0.964	1.003	1.037	1.064	1.082	1.089	
	0.603	0.587	0.551	0.495	0.414	0.311	0.174	0.000	
	1.037	0.816	0.639	0.504	0.412	0.363	0.346	0.343	
	2.967	2.654	2.387	2.186	2.075	2.098	2.199	2.239	
0.35	1.566	1.638	1.709	1.779	1.842	1.894	1.925	1.934	
	0.872	0.921	0.966	1.005	1.037	1.062	1.080	1.088	
	0.614	0.597	0.560	0.502	0.422	0.318	0.177	0.000	
	1.047	0.826	0.647	0.510	0.416	0.364	0.346	0.342	
	3.047	2.738	2.471	2.264	2.140	2.138	2.208	2.236	
0.40	1.573	1.644	1.715	1.784	1.846	1.897	1.927	1.935	
	0.873	0.923	0.968	1.006	1.037	1.060	1.078	1.086	
	0.625	0.606	0.568	0.510	0.429	0.323	0.178	0.000	
	1.058	0.836	0.655	0.517	0.420	0.365	0.346	0.342	
	3.125	2.820	2.551	2.336	2.197	2.171	2.215	2.234	
0.45	1.578	1.649	1.720	1.788	1.850	1.900	1.929	1.937	
	0.874	0.924	0.970	1.007	1.036	1.058	1.076	1.084	
	0.636	0.616	0.577	0.517	0.435	0.327	0.180	0.000	
	1.069	0.846	0.664	0.523	0.424	0.367	0.346	0.341	
	3.201	2.899	2.628	2.405	2.250	2.199	2.220	2.231	
0.50	1.583	1.654	1.724	1.791	1.853	1.903	1.930	1.938	
	0.874	0.926	0.971	1.008	1.035	1.056	1.074	1.083	
	0.646	0.625	0.585	0.523	0.440	0.330	0.181	0.000	
	1.081	0.857	0.674	0.530	0.428	0.368	0.345	0.340	
	3.277	2.977	2.704	2.471	2.299	2.224	2.224	2.228	

$$M_{\infty} = 6, \beta_{\kappa} = 30^{\circ}, \alpha = 20^{\circ}$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.55	1.587 0.875 0.656 1.093 3.352	1.657 0.927 0.635 0.869 3.054	1.726 0.972 0.592 0.683 2.778	1.794 1.009 0.529 0.538 2.535	1.855 1.035 0.444 0.433 2.345	1.904 1.054 0.333 0.370 2.246	1.931 1.072 0.181 0.345 2.226	1.939 1.081 0.000 0.340 2.225	
0.60	1.590 0.875 0.666 1.105 3.426	1.660 0.928 0.643 0.880 3.131	1.728 0.974 0.599 0.694 2.851	1.795 1.010 0.534 0.546 2.598	1.857 1.035 0.448 0.438 2.390	1.906 1.053 0.334 0.372 2.266	1.933 1.071 0.181 0.345 2.228	1.940 1.080 0.000 0.339 2.221	
0.65	1.593 0.875 0.676 1.118 3.500	1.661 0.929 0.652 0.893 3.207	1.730 0.975 0.606 0.705 2.923	1.796 1.011 0.539 0.554 2.659	1.858 1.035 0.451 0.443 2.432	1.907 1.052 0.335 0.374 2.285	1.934 1.069 0.181 0.345 2.229	1.941 1.078 0.000 0.338 2.218	
0.70	1.595 0.876 0.686 1.131 3.573	1.663 0.930 0.660 0.906 3.283	1.731 0.977 0.613 0.716 2.995	1.797 1.012 0.544 0.563 2.720	1.858 1.035 0.454 0.448 2.474	1.908 1.051 0.336 0.376 2.303	1.935 1.068 0.181 0.344 2.230	1.942 1.077 0.000 0.337 2.214	
0.75	1.596 0.876 0.696 1.145 3.647	1.664 0.931 0.668 0.919 3.359	1.731 0.978 0.619 0.728 3.067	1.797 1.014 0.548 0.573 2.780	1.859 1.036 0.456 0.454 2.516	1.909 1.050 0.336 0.378 2.320	1.936 1.066 0.181 0.344 2.230	1.943 1.075 0.000 0.337 2.209	
0.80	1.597 0.876 0.705 1.159 3.721	1.664 0.932 0.676 0.933 3.436	1.731 0.980 0.625 0.741 3.139	1.796 1.015 0.552 0.583 2.841	1.858 1.037 0.457 0.461 2.558	1.909 1.049 0.336 0.380 2.338	1.937 1.065 0.180 0.344 2.230	1.944 1.074 0.000 0.336 2.205	
0.85	1.598 0.877 0.714 1.174 3.795	1.664 0.934 0.683 0.948 3.512	1.730 0.982 0.630 0.754 3.211	1.795 1.017 0.555 0.593 2.901	1.858 1.038 0.459 0.468 2.599	1.910 1.049 0.336 0.383 2.355	1.938 1.063 0.179 0.343 2.229	1.945 1.072 0.000 0.334 2.200	
0.90	1.598 0.877 0.723 1.189 3.870	1.663 0.935 0.691 0.963 3.589	1.729 0.984 0.636 0.768 3.284	1.794 1.019 0.558 0.605 2.963	1.857 1.039 0.459 0.475 2.642	1.910 1.049 0.336 0.385 2.373	1.939 1.062 0.179 0.343 2.229	1.946 1.070 0.000 0.333 2.194	
0.95	1.598 0.877 0.731 1.205 3.945	1.662 0.937 0.698 0.979 3.667	1.727 0.986 0.641 0.782 3.357	1.792 1.022 0.561 0.616 3.024	1.855 1.041 0.460 0.483 2.685	1.909 1.050 0.335 0.388 2.391	1.940 1.061 0.178 0.342 2.228	1.947 1.068 0.000 0.332 2.188	
1.00	1.598 0.878 0.740 1.221 4.020	1.661 0.938 0.704 0.995 3.745	1.726 0.988 0.645 0.797 3.431	1.790 1.024 0.563 0.628 3.087	1.854 1.043 0.460 0.491 2.729	1.909 1.050 0.334 0.392 2.411	1.941 1.059 0.177 0.342 2.227	1.949 1.067 0.000 0.330 2.181	
F_x	0.770	0.775	0.779	0.779	0.774	0.760	0.743	0.736	

$$M_{\infty} = 6, \beta_{\kappa} = 35^{\circ}, \alpha = 5^{\circ}$$

ξ	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.00	1.332	1.333	1.335	1.340	1.346	1.353	1.361	1.370	1.380
	0.932	0.933	0.935	0.938	0.942	0.947	0.953	0.959	0.966
	0.000	0.020	0.040	0.058	0.074	0.087	0.097	0.104	0.106
	2.411	2.401	2.372	2.326	2.264	2.191	2.110	2.025	1.938
0.05	4.978	4.963	4.921	4.853	4.761	4.576	4.528	4.509	4.262
	1.338	1.339	1.345	1.354	1.367	1.382	1.400	1.420	1.441
	0.925	0.926	0.930	0.936	0.945	0.956	0.961	0.983	0.998
	0.000	0.023	0.046	0.067	0.086	0.101	0.113	0.120	0.123
0.10	2.410	2.401	2.372	2.326	2.264	2.191	2.110	2.025	1.939
	4.977	4.969	4.944	4.905	4.853	4.793	4.727	4.662	4.600
	1.343	1.345	1.351	1.360	1.373	1.389	1.407	1.427	1.448
	0.917	0.918	0.922	0.929	0.938	0.950	0.963	0.977	0.993
0.15	0.000	0.025	0.050	0.073	0.093	0.110	0.123	0.131	0.135
	2.409	2.399	2.371	2.324	2.263	2.190	2.109	2.024	1.938
	4.975	4.968	4.944	4.907	4.859	4.802	4.740	4.678	4.618
	1.349	1.351	1.356	1.366	1.379	1.395	1.413	1.433	1.454
0.20	0.909	0.910	0.915	0.922	0.931	0.943	0.956	0.971	0.986
	0.000	0.027	0.053	0.078	0.099	0.117	0.131	0.140	0.144
	2.407	2.397	2.368	2.322	2.262	2.189	2.108	2.023	1.937
	4.972	4.965	4.943	4.907	4.861	4.807	4.748	4.687	4.629
0.25	1.354	1.356	1.362	1.372	1.385	1.400	1.419	1.439	1.460
	0.901	0.903	0.907	0.914	0.924	0.936	0.950	0.964	0.980
	0.000	0.028	0.056	0.082	0.104	0.123	0.138	0.147	0.151
	2.404	2.394	2.366	2.320	2.259	2.187	2.106	2.021	1.935
0.30	4.968	4.960	4.939	4.906	4.861	4.809	4.752	4.693	4.635
	1.360	1.362	1.368	1.377	1.390	1.406	1.424	1.444	1.466
	0.894	0.895	0.900	0.907	0.917	0.929	0.943	0.958	0.974
	0.000	0.029	0.058	0.085	0.109	0.128	0.144	0.154	0.158
0.35	2.400	2.390	2.362	2.316	2.256	2.184	2.103	2.018	1.933
	4.962	4.955	4.935	4.902	4.859	4.809	4.753	4.695	4.639
	1.365	1.367	1.373	1.383	1.396	1.412	1.430	1.450	1.471
	0.886	0.888	0.892	0.900	0.910	0.922	0.936	0.952	0.968
0.40	0.000	0.030	0.060	0.088	0.113	0.133	0.149	0.159	0.164
	2.395	2.386	2.357	2.312	2.252	2.180	2.100	2.015	1.930
	4.955	4.948	4.929	4.897	4.856	4.807	4.753	4.696	4.640
	1.371	1.373	1.379	1.388	1.401	1.417	1.435	1.455	1.476
0.45	0.879	0.881	0.885	0.893	0.903	0.915	0.930	0.945	0.962
	0.000	0.031	0.062	0.091	0.116	0.137	0.154	0.164	0.168
	2.390	2.380	2.352	2.307	2.247	2.176	2.096	2.012	1.927
	4.947	4.940	4.922	4.891	4.851	4.804	4.751	4.695	4.640
0.50	1.376	1.378	1.384	1.394	1.406	1.422	1.440	1.460	1.481
	0.872	0.873	0.878	0.886	0.896	0.909	0.923	0.939	0.956
	0.000	0.032	0.064	0.093	0.119	0.141	0.158	0.169	0.173
	2.384	2.374	2.346	2.302	2.242	2.171	2.092	2.008	1.923
0.55	4.938	4.931	4.913	4.884	4.845	4.799	4.747	4.693	4.638
	1.382	1.384	1.390	1.399	1.412	1.428	1.446	1.465	1.486
	0.865	0.866	0.871	0.879	0.889	0.902	0.917	0.933	0.949
	0.000	0.033	0.066	0.096	0.122	0.145	0.162	0.173	0.178
0.60	2.377	2.367	2.340	2.295	2.236	2.165	2.086	2.003	1.918
	4.927	4.921	4.904	4.876	4.838	4.793	4.742	4.689	4.635
	1.387	1.389	1.395	1.404	1.417	1.433	1.451	1.470	1.491
	0.857	0.859	0.864	0.872	0.883	0.896	0.911	0.927	0.944
0.65	0.000	0.034	0.067	0.098	0.125	0.148	0.166	0.177	0.182
	2.369	2.360	2.332	2.288	2.230	2.159	2.081	1.998	1.913
	4.916	4.910	4.893	4.866	4.830	4.786	4.736	4.684	4.630
	1.387	1.389	1.395	1.404	1.417	1.433	1.451	1.470	1.491

$$M_{\infty} = 6, \beta_K = 35^\circ, \alpha = 5^\circ$$

ξ	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.55	1.393 0.851 0.000 2.361 4.904	1.395 0.852 0.035 2.352 4.898	1.400 0.857 0.069 2.325 4.882	1.410 0.865 0.100 2.281 4.855	1.422 0.876 0.128 2.222 4.820	1.438 0.889 0.151 2.153 4.777	1.456 0.904 0.169 2.075 4.729	1.475 0.921 0.180 1.992 4.678	1.496 0.938 0.185 1.908 4.625
0.60	1.398 0.844 0.000 2.352 4.890	1.400 0.845 0.037 2.343 4.885	1.406 0.850 0.070 2.316 4.869	1.415 0.858 0.102 2.272 4.844	1.428 0.869 0.130 2.215 4.810	1.443 0.883 0.154 2.145 4.768	1.461 0.898 0.172 2.068 4.721	1.480 0.915 0.184 1.986 4.670	1.500 0.932 0.189 1.902 4.618
0.65	1.404 0.837 0.000 2.343 4.876	1.406 0.838 0.036 2.333 4.871	1.411 0.844 0.071 2.307 4.856	1.420 0.852 0.104 2.264 4.831	1.433 0.863 0.133 2.206 4.798	1.448 0.876 0.157 2.138 4.758	1.466 0.892 0.175 2.061 4.711	1.485 0.909 0.187 1.979 4.662	1.505 0.926 0.192 1.896 4.610
0.70	1.409 0.830 0.000 2.332 4.861	1.411 0.832 0.037 2.323 4.856	1.417 0.837 0.072 2.297 4.841	1.426 0.845 0.106 2.254 4.817	1.438 0.856 0.135 2.197 4.785	1.453 0.870 0.159 2.129 4.746	1.471 0.886 0.178 2.053 4.701	1.490 0.903 0.190 1.972 4.652	1.510 0.920 0.195 1.889 4.601
0.75	1.415 0.823 0.000 2.321 4.844	1.416 0.825 0.037 2.313 4.840	1.422 0.830 0.074 2.286 4.826	1.431 0.839 0.107 2.244 4.803	1.443 0.850 0.137 2.188 4.772	1.459 0.864 0.162 2.120 4.734	1.476 0.880 0.181 2.044 4.690	1.495 0.897 0.193 1.964 4.641	1.515 0.915 0.198 1.882 4.591
0.80	1.420 0.816 0.000 2.310 4.827	1.422 0.818 0.038 2.301 4.823	1.427 0.824 0.075 2.275 4.809	1.436 0.832 0.109 2.233 4.787	1.449 0.844 0.139 2.178 4.757	1.464 0.858 0.164 2.111 4.720	1.481 0.874 0.183 2.036 4.677	1.500 0.891 0.195 1.955 4.630	1.519 0.909 0.200 1.874 4.580
0.85	1.426 0.810 0.000 2.298 4.809	1.427 0.812 0.038 2.289 4.805	1.433 0.817 0.076 2.263 4.792	1.442 0.826 0.110 2.222 4.770	1.454 0.837 0.141 2.167 4.741	1.469 0.852 0.166 2.101 4.705	1.486 0.868 0.185 2.026 4.664	1.504 0.885 0.198 1.947 4.617	1.524 0.903 0.203 1.866 4.568
0.90	1.431 0.803 0.000 2.285 4.790	1.433 0.805 0.039 2.276 4.785	1.438 0.810 0.077 2.251 4.773	1.447 0.819 0.112 2.210 4.753	1.459 0.831 0.143 2.156 4.725	1.474 0.845 0.168 2.090 4.690	1.491 0.862 0.188 2.016 4.649	1.509 0.879 0.200 1.938 4.604	1.529 0.898 0.205 1.857 4.555
0.95	1.437 0.796 0.000 2.272 4.769	1.439 0.798 0.039 2.263 4.765	1.444 0.804 0.078 2.238 4.754	1.453 0.813 0.113 2.198 4.734	1.465 0.825 0.144 2.144 4.707	1.479 0.839 0.170 2.079 4.673	1.496 0.856 0.190 2.006 4.634	1.514 0.874 0.202 1.928 4.589	1.533 0.892 0.207 1.848 4.541
1.00	1.442 0.790 0.000 2.257 4.748	1.444 0.792 0.040 2.249 4.744	1.449 0.797 0.078 2.224 4.733	1.458 0.806 0.114 2.185 4.714	1.470 0.818 0.146 2.132 4.688	1.484 0.833 0.172 2.067 4.656	1.501 0.850 0.192 1.995 4.617	1.519 0.868 0.204 1.918 4.574	1.538 0.887 0.209 1.838 4.526
F_x	0.858	0.858	0.857	0.857	0.856	0.855	0.854	0.853	0.851

$$M_{\infty} = 6, \beta_{\kappa} = 35^{\circ}, \alpha = 5^{\circ}$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.00	1.389	1.399	1.407	1.415	1.421	1.426	1.429	1.506	1.430
	0.973	0.979	0.985	0.991	0.995	0.998	1.000	1.055	1.001
	0.104	0.098	0.088	0.075	0.058	0.040	0.020	0.000	0.000
	1.855	1.778	1.710	1.652	1.605	1.572	1.551	1.545	1.545
0.05	4.206	4.008	3.898	3.803	3.765	3.672	3.638	4.069	3.627
	1.463	1.484	1.505	1.523	1.539	1.551	1.558	1.560	
	1.014	1.029	1.043	1.056	1.067	1.076	1.081	1.083	
	0.121	0.114	0.103	0.089	0.069	0.048	0.026	0.000	
0.10	1.855	1.778	1.710	1.651	1.605	1.572	1.551	1.544	
	4.546	4.502	4.471	4.451	4.440	4.436	4.436	4.436	
	1.470	1.491	1.511	1.529	1.544	1.555	1.562	1.565	
	1.008	1.023	1.038	1.051	1.061	1.069	1.074	1.076	
0.15	0.133	0.126	0.114	0.098	0.077	0.053	0.027	0.000	
	1.855	1.778	1.709	1.651	1.604	1.571	1.550	1.543	
	4.565	4.521	4.486	4.462	4.447	4.439	4.435	4.434	
	1.476	1.497	1.517	1.535	1.549	1.560	1.567	1.569	
0.20	1.002	1.018	1.032	1.045	1.055	1.063	1.068	1.070	
	0.142	0.135	0.122	0.105	0.083	0.057	0.029	0.000	
	1.854	1.777	1.708	1.650	1.603	1.569	1.549	1.542	
	4.576	4.531	4.495	4.468	4.450	4.438	4.433	4.431	
0.25	1.482	1.503	1.522	1.540	1.554	1.565	1.571	1.574	
	0.996	1.012	1.026	1.039	1.049	1.057	1.062	1.064	
	0.150	0.142	0.129	0.111	0.087	0.060	0.031	0.000	
	1.852	1.775	1.706	1.648	1.601	1.567	1.547	1.540	
0.30	4.583	4.537	4.499	4.470	4.450	4.436	4.429	4.427	
	1.487	1.508	1.527	1.544	1.559	1.569	1.576	1.578	
	0.990	1.006	1.020	1.033	1.044	1.052	1.056	1.058	
	0.156	0.148	0.135	0.115	0.091	0.063	0.032	0.000	
0.35	1.850	1.773	1.704	1.646	1.599	1.565	1.545	1.538	
	4.586	4.540	4.501	4.471	4.448	4.433	4.424	4.422	
	1.492	1.513	1.532	1.549	1.563	1.573	1.580	1.582	
	0.984	1.000	1.014	1.027	1.038	1.046	1.051	1.052	
0.40	0.162	0.154	0.140	0.120	0.095	0.065	0.033	0.000	
	1.847	1.770	1.701	1.643	1.596	1.562	1.542	1.535	
	4.588	4.541	4.501	4.469	4.445	4.428	4.419	4.415	
	1.497	1.518	1.537	1.553	1.567	1.578	1.584	1.586	
0.45	0.978	0.994	1.009	1.022	1.032	1.040	1.045	1.047	
	0.167	0.159	0.144	0.123	0.098	0.067	0.034	0.000	
	1.844	1.767	1.698	1.640	1.593	1.559	1.538	1.531	
	4.588	4.540	4.500	4.466	4.441	4.423	4.412	4.408	
0.50	1.502	1.522	1.541	1.558	1.572	1.582	1.588	1.590	
	0.972	0.988	1.003	1.016	1.027	1.035	1.040	1.041	
	0.172	0.163	0.148	0.127	0.100	0.069	0.035	0.000	
	1.840	1.763	1.695	1.636	1.589	1.555	1.535	1.528	
0.55	4.586	4.538	4.497	4.462	4.435	4.416	4.404	4.401	
	1.507	1.527	1.546	1.562	1.576	1.585	1.592	1.594	
	0.966	0.982	0.997	1.010	1.021	1.029	1.034	1.036	
	0.176	0.167	0.151	0.130	0.102	0.071	0.036	0.000	
0.60	1.836	1.759	1.691	1.632	1.585	1.551	1.530	1.523	
	4.583	4.535	4.492	4.457	4.428	4.408	4.396	4.392	
	1.512	1.532	1.550	1.567	1.580	1.590	1.596	1.598	
	0.960	0.977	0.992	1.005	1.016	1.024	1.029	1.031	
0.65	0.180	0.170	0.155	0.132	0.105	0.072	0.037	0.000	
	1.831	1.755	1.686	1.628	1.581	1.547	1.526	1.519	
	4.579	4.530	4.487	4.450	4.421	4.400	4.387	4.382	

$$M_{\infty} = 6, \beta_K = 35^{\circ}, \alpha = 5^{\circ}$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.55	1.516 0.955 0.183 1.826 4.573	1.536 0.971 0.174 1.750 4.524	1.555 0.986 0.158 1.681 4.480	1.571 1.000 0.135 1.623 4.442	1.584 1.011 0.107 1.576 4.412	1.594 1.019 0.074 1.542 4.390	1.600 1.024 0.037 1.521 4.377	1.602 1.025 0.000 1.514 4.372	
0.60	1.521 0.949 0.186 1.821 4.566	1.541 0.965 0.177 1.744 4.517	1.559 0.981 0.160 1.676 4.472	1.575 0.991 0.137 1.618 4.434	1.588 1.005 0.108 1.571 4.403	1.598 1.013 0.075 1.536 4.380	1.604 1.019 0.038 1.516 4.366	1.607 1.020 0.000 1.509 4.361	
0.65	1.525 0.943 0.189 1.815 4.558	1.545 0.960 0.180 1.739 4.509	1.563 0.975 0.163 1.670 4.464	1.579 0.989 0.139 1.612 4.424	1.593 1.000 0.110 1.565 4.392	1.602 1.008 0.076 1.531 4.369	1.608 1.013 0.039 1.510 4.354	1.610 1.015 0.000 1.503 4.349	
0.70	1.530 0.938 0.192 1.808 4.549	1.550 0.955 0.182 1.732 4.500	1.568 0.970 0.165 1.664 4.454	1.584 0.984 0.141 1.606 4.414	1.597 0.995 0.111 1.559 4.381	1.606 1.003 0.077 1.525 4.357	1.612 1.008 0.039 1.504 4.342	1.614 1.010 0.000 1.497 4.336	
0.75	1.535 0.932 0.195 1.801 4.540	1.554 0.949 0.185 1.726 4.490	1.572 0.965 0.167 1.658 4.444	1.588 0.979 0.143 1.600 4.403	1.601 0.990 0.113 1.553 4.369	1.610 0.998 0.078 1.518 4.344	1.616 1.003 0.040 1.498 4.328	1.618 1.005 0.000 1.491 4.323	
0.80	1.539 0.927 0.197 1.794 4.529	1.558 0.944 0.187 1.719 4.479	1.576 0.960 0.169 1.651 4.432	1.592 0.973 0.145 1.593 4.391	1.605 0.985 0.114 1.546 4.356	1.614 0.993 0.079 1.512 4.330	1.620 0.998 0.040 1.491 4.314	1.622 1.000 0.000 1.484 4.309	
0.85	1.544 0.921 0.200 1.786 4.517	1.563 0.939 0.189 1.711 4.467	1.580 0.954 0.171 1.644 4.420	1.596 0.968 0.146 1.586 4.378	1.609 0.980 0.115 1.539 4.343	1.618 0.988 0.080 1.505 4.316	1.624 0.994 0.040 1.484 4.299	1.626 0.995 0.000 1.477 4.294	
0.90	1.548 0.916 0.202 1.773 4.504	1.567 0.933 0.191 1.703 4.454	1.585 0.949 0.173 1.636 4.407	1.600 0.963 0.148 1.578 4.364	1.613 0.975 0.116 1.531 4.328	1.622 0.983 0.080 1.497 4.301	1.628 0.989 0.041 1.476 4.284	1.630 0.990 0.000 1.469 4.278	
0.95	1.553 0.911 0.204 1.769 4.491	1.571 0.928 0.193 1.695 4.441	1.589 0.944 0.175 1.628 4.393	1.604 0.958 0.149 1.570 4.349	1.617 0.970 0.117 1.523 4.313	1.627 0.978 0.081 1.489 4.285	1.632 0.984 0.041 1.468 4.268	1.634 0.986 0.000 1.461 4.262	
1.00	1.557 0.905 0.206 1.760 4.476	1.576 0.923 0.195 1.686 4.426	1.593 0.939 0.176 1.619 4.378	1.608 0.953 0.150 1.562 4.334	1.621 0.965 0.118 1.515 4.296	1.631 0.974 0.082 1.481 4.268	1.636 0.979 0.041 1.460 4.250	1.638 0.981 0.000 1.453 4.244	
F_x	0.849	0.847	0.845	0.843	0.841	0.840	0.839	0.839	

$$M_{\infty} = 6, \beta_{\kappa} = 35^{\circ}, \alpha = 10^{\circ}$$

ξ	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.00	1.199	1.201	1.207	1.216	1.229	1.244	1.263	1.283	1.305
	0.840	0.841	0.845	0.851	0.860	0.871	0.884	0.899	0.914
	0.000	0.042	0.083	0.121	0.156	0.185	0.209	0.224	0.231
	2.864	2.842	2.777	2.674	2.539	2.381	2.209	2.032	1.859
0.05	5.161	5.132	5.048	4.914	4.736	4.524	4.288	4.041	3.793
	1.205	1.209	1.219	1.235	1.257	1.285	1.318	1.355	1.395
	0.831	0.833	0.840	0.852	0.868	0.888	0.911	0.937	0.966
	0.000	0.047	0.092	0.134	0.172	0.203	0.228	0.243	0.250
0.10	2.864	2.842	2.777	2.674	2.539	2.382	2.210	2.033	1.861
	5.160	5.139	5.078	4.980	4.851	4.700	4.536	4.369	4.212
	1.212	1.215	1.226	1.243	1.266	1.295	1.329	1.367	1.408
	0.822	0.825	0.832	0.845	0.862	0.883	0.908	0.935	0.965
0.15	0.000	0.050	0.098	0.144	0.184	0.218	0.244	0.261	0.269
	2.862	2.840	2.776	2.673	2.539	2.382	2.211	2.035	1.862
	5.158	5.138	5.082	4.991	4.872	4.731	4.578	4.423	4.276
	1.218	1.221	1.232	1.250	1.274	1.304	1.338	1.377	1.418
0.20	0.813	0.816	0.824	0.837	0.855	0.877	0.903	0.931	0.962
	0.000	0.053	0.104	0.151	0.194	0.230	0.258	0.276	0.285
	2.859	2.838	2.774	2.672	2.538	2.382	2.211	2.035	1.863
	5.154	5.136	5.083	4.997	4.885	4.752	4.608	4.460	4.320
0.25	1.224	1.228	1.239	1.257	1.281	1.311	1.346	1.385	1.426
	0.805	0.808	0.816	0.830	0.848	0.871	0.897	0.926	0.957
	0.000	0.055	0.108	0.158	0.203	0.240	0.269	0.289	0.299
	2.856	2.834	2.770	2.669	2.538	2.381	2.211	2.035	1.863
0.30	5.150	5.132	5.082	5.001	4.894	4.768	4.630	4.489	4.354
	1.230	1.234	1.245	1.263	1.288	1.318	1.353	1.392	1.433
	0.796	0.799	0.808	0.822	0.841	0.864	0.891	0.921	0.953
	0.000	0.057	0.113	0.164	0.211	0.250	0.280	0.301	0.311
0.35	2.851	2.829	2.766	2.666	2.534	2.379	2.210	2.035	1.863
	5.143	5.127	5.079	5.002	4.901	4.781	4.649	4.513	4.382
	1.237	1.240	1.251	1.270	1.294	1.325	1.360	1.399	1.440
	0.788	0.791	0.800	0.814	0.834	0.858	0.885	0.916	0.948
0.40	0.000	0.059	0.117	0.170	0.218	0.258	0.290	0.311	0.321
	2.845	2.824	2.761	2.662	2.531	2.377	2.209	2.035	1.863
	5.136	5.121	5.075	5.002	4.905	4.790	4.664	4.533	4.405
	1.243	1.247	1.258	1.276	1.300	1.331	1.366	1.405	1.446
0.45	0.780	0.783	0.792	0.807	0.827	0.851	0.879	0.910	0.942
	0.000	0.061	0.120	0.175	0.225	0.266	0.299	0.321	0.331
	2.839	2.818	2.756	2.657	2.527	2.374	2.207	2.034	1.863
	5.127	5.113	5.070	5.000	4.908	4.798	4.676	4.549	4.425
0.50	1.249	1.253	1.264	1.282	1.307	1.337	1.372	1.411	1.452
	0.772	0.775	0.784	0.799	0.820	0.845	0.873	0.905	0.937
	0.000	0.063	0.124	0.180	0.231	0.273	0.307	0.329	0.340
	2.831	2.810	2.749	2.651	2.522	2.371	2.204	2.032	1.862
0.55	5.118	5.104	5.063	4.996	4.908	4.803	4.686	4.563	4.442
	1.255	1.259	1.270	1.288	1.313	1.343	1.378	1.417	1.458
	0.764	0.767	0.776	0.792	0.813	0.838	0.867	0.899	0.932
	0.000	0.064	0.127	0.185	0.237	0.280	0.314	0.338	0.349
0.60	2.823	2.802	2.741	2.644	2.517	2.367	2.201	2.030	1.860
	5.107	5.094	5.055	4.992	4.908	4.807	4.694	4.575	4.457
	1.261	1.265	1.276	1.294	1.319	1.349	1.384	1.422	1.463
	0.756	0.759	0.769	0.784	0.806	0.832	0.861	0.893	0.927
0.65	0.000	0.066	0.130	0.189	0.242	0.287	0.322	0.345	0.357
	2.813	2.793	2.733	2.637	2.511	2.362	2.198	2.027	1.859
	5.095	5.082	5.045	4.985	4.905	4.809	4.701	4.585	4.469
	1.267	1.271	1.282	1.300	1.325	1.355	1.390	1.428	1.469

$$M_{\infty} = 6, \beta_k = 35^\circ, \alpha = 10^\circ$$

u^*	θ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.55	1.268	1.271	1.282	1.300	1.325	1.355	1.389	1.428	1.468
	0.748	0.751	0.761	0.777	0.799	0.825	0.855	0.888	0.921
	0.000	0.067	0.133	0.193	0.248	0.293	0.328	0.352	0.364
	2.803	2.783	2.724	2.629	2.504	2.357	2.194	2.025	1.856
0.60	5.081	5.070	5.035	4.978	4.902	4.810	4.705	4.594	4.480
	1.274	1.278	1.288	1.306	1.331	1.360	1.395	1.433	1.473
	0.740	0.743	0.753	0.770	0.792	0.819	0.849	0.882	0.916
	0.000	0.069	0.135	0.197	0.253	0.299	0.335	0.359	0.371
0.65	2.700	2.772	2.714	2.620	2.497	2.351	2.189	2.021	1.854
	5.067	5.056	5.023	4.969	4.897	4.809	4.709	4.601	4.489
	1.280	1.284	1.295	1.312	1.336	1.366	1.400	1.438	1.478
	0.732	0.736	0.746	0.763	0.785	0.812	0.843	0.877	0.911
0.70	0.000	0.070	0.138	0.201	0.257	0.304	0.341	0.366	0.377
	2.780	2.761	2.703	2.611	2.489	2.344	2.184	2.018	1.851
	5.052	5.041	5.010	4.959	4.891	4.807	4.711	4.606	4.497
	1.286	1.290	1.301	1.318	1.342	1.371	1.405	1.443	1.482
0.75	0.725	0.728	0.739	0.755	0.778	0.806	0.837	0.871	0.906
	0.000	0.071	0.140	0.205	0.262	0.310	0.347	0.372	0.383
	2.768	2.748	2.692	2.600	2.480	2.337	2.179	2.013	1.848
	5.035	5.025	4.996	4.948	4.883	4.804	4.711	4.610	4.503
0.80	1.293	1.296	1.307	1.324	1.348	1.377	1.411	1.448	1.487
	0.717	0.720	0.731	0.748	0.771	0.799	0.831	0.866	0.901
	0.000	0.072	0.143	0.208	0.266	0.315	0.352	0.377	0.389
	2.754	2.735	2.679	2.589	2.471	2.329	2.173	2.009	1.845
0.85	5.018	5.008	4.981	4.936	4.875	4.799	4.711	4.613	4.508
	1.299	1.303	1.313	1.330	1.354	1.382	1.416	1.452	1.491
	0.709	0.713	0.724	0.741	0.765	0.793	0.825	0.860	0.896
	0.000	0.074	0.145	0.212	0.270	0.320	0.358	0.383	0.394
0.90	2.740	2.721	2.666	2.578	2.461	2.321	2.167	2.004	1.841
	4.999	4.990	4.965	4.923	4.865	4.793	4.709	4.614	4.512
	1.305	1.309	1.319	1.336	1.359	1.388	1.421	1.457	1.496
	0.702	0.705	0.716	0.734	0.758	0.787	0.820	0.855	0.891
0.95	0.000	0.075	0.147	0.215	0.274	0.324	0.363	0.388	0.400
	2.725	2.707	2.652	2.565	2.450	2.313	2.160	1.999	1.837
	4.979	4.971	4.948	4.908	4.855	4.787	4.706	4.615	4.515
	1.312	1.315	1.325	1.342	1.365	1.393	1.426	1.462	1.500
1.00	0.694	0.698	0.709	0.727	0.751	0.781	0.814	0.849	0.886
	0.000	0.076	0.150	0.218	0.278	0.329	0.368	0.393	0.404
	2.709	2.691	2.638	2.552	2.439	2.303	2.152	1.993	1.832
	4.958	4.951	4.929	4.893	4.843	4.779	4.702	4.614	4.516
F_x	1.318	1.322	1.332	1.348	1.371	1.399	1.431	1.466	1.504
	0.687	0.690	0.702	0.720	0.745	0.774	0.808	0.844	0.881
	0.000	0.077	0.152	0.221	0.282	0.333	0.372	0.398	0.409
	2.692	2.675	2.622	2.538	2.427	2.293	2.144	1.987	1.827
	4.936	4.930	4.910	4.876	4.829	4.769	4.697	4.612	4.516
F_x	1.325	1.328	1.338	1.354	1.376	1.404	1.436	1.471	1.508
	0.679	0.683	0.695	0.713	0.738	0.768	0.802	0.839	0.876
	0.000	0.078	0.154	0.224	0.286	0.337	0.377	0.403	0.414
	2.675	2.658	2.606	2.524	2.414	2.283	2.136	1.980	1.822
	4.913	4.907	4.889	4.859	4.815	4.759	4.690	4.609	4.516
F_x	0.871	0.871	0.871	0.871	0.871	0.870	0.869	0.867	0.864

$$M_{\infty} = 6, \beta_K = 35^{\circ}, \alpha = 10^{\circ}$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.00	1.328	1.350	1.371	1.390	1.405	1.416	1.422	1.646	1.425
	0.930	0.945	0.960	0.973	0.984	0.991	0.996	1.152	0.997
	0.229	0.216	0.193	0.161	0.124	0.084	0.042	0.000	0.000
	1.698	1.553	1.430	1.331	1.255	1.202	1.171	1.161	1.161
	3.555	3.338	3.147	2.990	2.867	2.781	2.730	4.041	2.713
0.05	1.437	1.480	1.523	1.564	1.599	1.627	1.644	1.650	
	0.996	1.027	1.057	1.086	1.110	1.130	1.142	1.146	
	0.246	0.233	0.210	0.179	0.142	0.098	0.050	0.000	
	1.699	1.555	1.431	1.331	1.255	1.202	1.171	1.160	
	4.077	3.975	3.916	3.904	3.932	3.981	4.023	4.040	
0.10	1.451	1.494	1.536	1.575	1.608	1.633	1.649	1.654	
	0.996	1.027	1.056	1.084	1.107	1.125	1.137	1.140	
	0.267	0.254	0.231	0.200	0.159	0.111	0.057	0.000	
	1.700	1.555	1.442	1.331	1.255	1.201	1.170	1.160	
	4.149	4.051	3.990	3.967	3.977	4.004	4.028	4.038	
0.15	1.461	1.504	1.545	1.582	1.614	1.638	1.653	1.658	
	0.993	1.024	1.054	1.080	1.103	1.121	1.131	1.135	
	0.283	0.271	0.248	0.215	0.172	0.120	0.062	0.000	
	1.701	1.556	1.432	1.331	1.254	1.201	1.169	1.158	
	4.197	4.100	4.036	4.006	4.003	4.016	4.030	4.035	
0.20	1.469	1.511	1.552	1.589	1.619	1.643	1.657	1.662	
	0.989	1.020	1.050	1.076	1.099	1.116	1.126	1.130	
	0.297	0.285	0.261	0.227	0.182	0.127	0.065	0.000	
	1.702	1.557	1.432	1.331	1.254	1.199	1.168	1.157	
	4.234	4.138	4.070	4.033	4.021	4.023	4.029	4.032	
0.25	1.476	1.518	1.558	1.594	1.624	1.647	1.661	1.666	
	0.984	1.016	1.045	1.072	1.094	1.111	1.121	1.125	
	0.309	0.297	0.272	0.237	0.190	0.133	0.068	0.000	
	1.702	1.557	1.432	1.330	1.252	1.198	1.166	1.155	
	4.264	4.168	4.097	4.054	4.033	4.027	4.026	4.027	
0.30	1.483	1.524	1.564	1.599	1.629	1.651	1.664	1.669	
	0.980	1.011	1.041	1.067	1.089	1.106	1.116	1.120	
	0.320	0.307	0.282	0.245	0.196	0.137	0.071	0.000	
	1.702	1.557	1.431	1.329	1.251	1.196	1.164	1.153	
	4.289	4.192	4.118	4.069	4.042	4.028	4.023	4.021	
0.35	1.488	1.530	1.569	1.604	1.633	1.655	1.668	1.673	
	0.975	1.007	1.036	1.063	1.085	1.101	1.112	1.115	
	0.330	0.317	0.291	0.253	0.202	0.141	0.073	0.000	
	1.701	1.556	1.431	1.328	1.249	1.194	1.161	1.150	
	4.311	4.213	4.136	4.082	4.048	4.028	4.018	4.015	
0.40	1.494	1.535	1.574	1.609	1.637	1.659	1.672	1.676	
	0.970	1.002	1.032	1.058	1.080	1.097	1.107	1.110	
	0.339	0.325	0.299	0.259	0.207	0.145	0.074	0.000	
	1.701	1.555	1.430	1.327	1.247	1.192	1.159	1.148	
	4.329	4.230	4.151	4.092	4.051	4.026	4.013	4.008	
0.45	1.499	1.540	1.579	1.613	1.641	1.662	1.675	1.679	
	0.965	0.997	1.027	1.053	1.075	1.092	1.102	1.106	
	0.348	0.333	0.306	0.265	0.212	0.148	0.076	0.000	
	1.700	1.554	1.428	1.325	1.245	1.189	1.156	1.145	
	4.345	4.245	4.163	4.099	4.053	4.023	4.006	4.000	
0.50	1.504	1.545	1.583	1.617	1.645	1.666	1.678	1.683	
	0.960	0.992	1.022	1.049	1.071	1.088	1.098	1.102	
	0.355	0.340	0.312	0.270	0.216	0.151	0.077	0.000	
	1.698	1.553	1.427	1.323	1.243	1.186	1.153	1.141	
	4.358	4.258	4.173	4.105	4.054	4.019	3.999	3.992	

$$M_{\infty} = 6, \beta_{\kappa} = 35^{\circ}, \alpha = 10^{\circ}$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.55	1.509	1.550	1.588	1.621	1.649	1.669	1.682	1.686	
	0.955	0.988	1.018	1.044	1.067	1.083	1.094	1.097	
	0.362	0.347	0.318	0.275	0.220	0.153	0.079	0.000	
	1.697	1.551	1.425	1.321	1.240	1.183	1.149	1.138	
	4.370	4.269	4.181	4.109	4.053	4.014	3.991	3.983	
0.60	1.514	1.554	1.592	1.625	1.652	1.673	1.685	1.689	
	0.950	0.983	1.013	1.040	1.062	1.080	1.089	1.093	
	0.369	0.353	0.323	0.280	0.223	0.155	0.080	0.000	
	1.695	1.549	1.423	1.318	1.237	1.179	1.145	1.134	
	4.380	4.278	4.187	4.111	4.051	4.008	3.982	3.973	
0.65	1.518	1.558	1.596	1.629	1.656	1.676	1.688	1.693	
	0.945	0.978	1.009	1.036	1.058	1.075	1.085	1.089	
	0.375	0.359	0.328	0.284	0.226	0.157	0.081	0.000	
	1.692	1.547	1.420	1.315	1.234	1.176	1.141	1.130	
	4.389	4.286	4.192	4.112	4.048	4.001	3.973	3.963	
0.70	1.523	1.562	1.599	1.632	1.659	1.679	1.692	1.696	
	0.942	0.974	1.004	1.031	1.054	1.071	1.081	1.085	
	0.381	0.364	0.333	0.287	0.229	0.159	0.081	0.000	
	1.690	1.545	1.418	1.312	1.230	1.172	1.137	1.126	
	4.396	4.292	4.196	4.112	4.044	3.994	3.962	3.952	
0.75	1.527	1.566	1.603	1.636	1.663	1.683	1.695	1.699	
	0.936	0.969	1.000	1.027	1.050	1.066	1.077	1.081	
	0.386	0.369	0.337	0.291	0.231	0.161	0.082	0.000	
	1.687	1.542	1.415	1.309	1.226	1.168	1.133	1.121	
	4.402	4.297	4.198	4.111	4.039	3.985	3.952	3.940	
0.80	1.531	1.570	1.607	1.639	1.666	1.686	1.698	1.702	
	0.931	0.965	0.996	1.023	1.045	1.062	1.073	1.076	
	0.391	0.373	0.341	0.294	0.233	0.162	0.083	0.000	
	1.684	1.539	1.412	1.306	1.222	1.163	1.128	1.116	
	4.406	4.300	4.200	4.109	4.033	3.976	3.940	3.928	
0.85	1.535	1.574	1.611	1.643	1.670	1.689	1.702	1.706	
	0.927	0.961	0.992	1.019	1.041	1.058	1.069	1.072	
	0.396	0.378	0.344	0.296	0.235	0.163	0.083	0.000	
	1.680	1.536	1.409	1.302	1.218	1.159	1.123	1.111	
	4.409	4.303	4.200	4.106	4.026	3.966	3.928	3.915	
0.90	1.539	1.578	1.614	1.646	1.673	1.693	1.705	1.709	
	0.922	0.956	0.987	1.015	1.037	1.054	1.065	1.068	
	0.401	0.382	0.348	0.299	0.237	0.164	0.084	0.000	
	1.677	1.533	1.405	1.298	1.214	1.154	1.118	1.106	
	4.412	4.304	4.199	4.102	4.019	3.955	3.915	3.901	
0.95	1.543	1.581	1.618	1.650	1.676	1.696	1.708	1.712	
	0.917	0.952	0.983	1.011	1.033	1.050	1.061	1.064	
	0.405	0.386	0.351	0.301	0.239	0.166	0.085	0.000	
	1.673	1.529	1.401	1.294	1.209	1.149	1.112	1.100	
	4.413	4.305	4.198	4.097	4.010	3.943	3.901	3.887	
1.00	1.547	1.585	1.621	1.653	1.680	1.699	1.711	1.716	
	0.913	0.948	0.979	1.007	1.029	1.046	1.057	1.060	
	0.409	0.389	0.354	0.304	0.240	0.167	0.085	0.000	
	1.668	1.525	1.397	1.290	1.204	1.143	1.107	1.094	
	4.413	4.304	4.195	4.091	4.001	3.931	3.887	3.872	
F_x	0.861	0.857	0.853	0.847	0.843	0.838	0.836	0.835	

$$M_{\infty} = 6, \beta_{\kappa} = 40^{\circ}, \alpha = 5^{\circ}$$

ξ	θ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.00	1.099	1.100	1.102	1.107	1.113	1.121	1.129	1.139	1.149
	0.922	0.923	0.925	0.929	0.934	0.940	0.947	0.955	0.964
	0.000	0.020	0.040	0.058	0.074	0.088	0.098	0.104	0.106
	2.890	2.880	2.851	2.803	2.740	2.665	2.581	2.492	2.403
0.05	5.134	5.121	5.084	5.023	4.942	4.845	4.735	4.619	4.500
	1.106	1.108	1.114	1.124	1.137	1.153	1.173	1.194	1.217
	0.914	0.915	0.920	0.929	0.940	0.954	0.970	0.989	1.008
	0.000	0.024	0.047	0.068	0.087	0.102	0.114	0.121	0.123
0.10	2.890	2.880	2.850	2.803	2.740	2.665	2.581	2.492	2.403
	5.133	5.126	5.105	5.072	5.028	4.978	4.925	4.873	4.825
	1.113	1.115	1.121	1.131	1.145	1.161	1.181	1.202	1.225
	0.905	0.907	0.912	0.921	0.933	0.947	0.964	0.983	1.002
0.15	0.000	0.026	0.051	0.074	0.095	0.112	0.125	0.133	0.136
	2.888	2.878	2.849	2.801	2.739	2.664	2.580	2.492	2.402
	5.131	5.124	5.105	5.074	5.034	4.987	4.937	4.888	4.842
	1.120	1.122	1.128	1.138	1.152	1.169	1.188	1.210	1.233
0.20	0.897	0.899	0.905	0.914	0.926	0.940	0.958	0.976	0.996
	0.000	0.027	0.054	0.079	0.101	0.119	0.133	0.142	0.146
	2.885	2.875	2.846	2.799	2.736	2.661	2.578	2.490	2.401
	5.127	5.121	5.103	5.074	5.036	4.991	4.944	4.896	4.851
0.25	1.127	1.129	1.135	1.145	1.159	1.176	1.196	1.217	1.240
	0.889	0.891	0.897	0.906	0.918	0.934	0.951	0.970	0.990
	0.000	0.029	0.057	0.083	0.106	0.126	0.140	0.150	0.154
	2.881	2.871	2.842	2.795	2.733	2.659	2.575	2.487	2.398
0.30	5.123	5.117	5.099	5.071	5.035	4.993	4.947	4.901	4.857
	1.134	1.136	1.142	1.152	1.166	1.183	1.202	1.224	1.246
	0.882	0.884	0.889	0.899	0.911	0.927	0.944	0.964	0.984
	0.000	0.030	0.059	0.087	0.111	0.131	0.146	0.156	0.161
0.35	2.877	2.867	2.838	2.791	2.729	2.655	2.572	2.484	2.395
	5.116	5.111	5.094	5.068	5.033	4.992	4.948	4.903	4.860
	1.140	1.142	1.149	1.159	1.173	1.190	1.209	1.230	1.253
	0.874	0.876	0.882	0.891	0.904	0.920	0.938	0.957	0.978
0.40	0.000	0.031	0.062	0.090	0.115	0.136	0.152	0.162	0.167
	2.871	2.861	2.832	2.786	2.724	2.650	2.568	2.480	2.392
	5.109	5.104	5.088	5.062	5.029	4.990	4.947	4.903	4.861
	1.147	1.149	1.155	1.166	1.179	1.196	1.216	1.237	1.259
0.45	0.867	0.869	0.875	0.884	0.897	0.913	0.931	0.951	0.972
	0.000	0.032	0.064	0.093	0.119	0.140	0.157	0.167	0.172
	2.864	2.854	2.826	2.780	2.718	2.645	2.563	2.476	2.387
	5.101	5.096	5.080	5.056	5.024	4.986	4.944	4.901	4.860
0.50	1.154	1.156	1.162	1.172	1.186	1.203	1.222	1.243	1.265
	0.860	0.862	0.868	0.877	0.890	0.906	0.925	0.945	0.965
	0.000	0.033	0.065	0.095	0.122	0.144	0.161	0.172	0.177
	2.857	2.847	2.819	2.773	2.712	2.639	2.557	2.470	2.382
0.55	5.091	5.086	5.072	5.048	5.017	4.980	4.940	4.898	4.857
	1.160	1.162	1.169	1.179	1.192	1.209	1.228	1.249	1.271
	0.853	0.855	0.861	0.871	0.884	0.900	0.918	0.938	0.959
	0.000	0.034	0.067	0.098	0.125	0.148	0.165	0.177	0.181
0.60	2.848	2.839	2.811	2.765	2.705	2.632	2.551	2.464	2.377
	5.081	5.076	5.062	5.039	5.009	4.974	4.935	4.894	4.853
	1.167	1.169	1.175	1.185	1.199	1.215	1.234	1.255	1.277
	0.846	0.848	0.854	0.864	0.877	0.893	0.912	0.932	0.954
0.65	0.000	0.035	0.069	0.100	0.128	0.151	0.169	0.181	0.185
	2.839	2.830	2.802	2.757	2.697	2.625	2.544	2.458	2.371
	5.069	5.065	5.051	5.029	5.001	4.966	4.928	4.888	4.848

$$M_{\infty} = 6, \beta_K = 40^\circ, \alpha = 5^\circ$$

ξ	ϑ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.55	1.174 0.839 0.000 2.830 5.057	1.176 0.841 0.035 2.820 5.052	1.182 0.847 0.070 2.792 5.039	1.192 0.857 0.102 2.748 5.018	1.205 0.871 0.131 2.688 4.991	1.222 0.887 0.154 2.616 4.958	1.241 0.906 0.172 2.536 4.920	1.261 0.926 0.184 2.451 4.881	1.283 0.948 0.189 2.364 4.842
0.60	1.180 0.832 0.000 2.819 5.043	1.182 0.834 0.036 2.810 5.039	1.188 0.840 0.071 2.782 5.027	1.198 0.851 0.104 2.738 5.007	1.212 0.864 0.133 2.679 4.980	1.228 0.881 0.157 2.608 4.948	1.247 0.900 0.176 2.528 4.912	1.267 0.921 0.188 2.443 4.873	1.289 0.942 0.193 2.356 4.835
0.65	1.187 0.825 0.000 2.808 5.029	1.189 0.828 0.037 2.798 5.025	1.195 0.834 0.073 2.771 5.013	1.205 0.844 0.106 2.727 4.994	1.218 0.858 0.136 2.669 4.968	1.234 0.875 0.160 2.598 4.937	1.253 0.894 0.179 2.519 4.902	1.273 0.915 0.191 2.435 4.864	1.294 0.936 0.196 2.349 4.826
0.70	1.193 0.819 0.000 2.796 5.013	1.195 0.821 0.037 2.787 5.010	1.201 0.827 0.074 2.760 4.998	1.211 0.838 0.108 2.716 4.980	1.224 0.852 0.138 2.658 4.955	1.240 0.869 0.163 2.588 4.925	1.259 0.888 0.182 2.510 4.891	1.279 0.909 0.194 2.426 4.855	1.300 0.931 0.199 2.340 4.817
0.75	1.200 0.813 0.000 2.783 4.997	1.202 0.815 0.038 2.774 4.994	1.208 0.821 0.075 2.747 4.983	1.217 0.832 0.109 2.704 4.965	1.230 0.846 0.140 2.647 4.942	1.246 0.863 0.165 2.578 4.913	1.265 0.882 0.184 2.500 4.880	1.285 0.903 0.197 2.417 4.844	1.306 0.925 0.202 2.332 4.806
0.80	1.206 0.806 0.000 2.770 4.980	1.208 0.808 0.039 2.761 4.977	1.214 0.815 0.076 2.735 4.966	1.224 0.825 0.111 2.692 4.950	1.236 0.840 0.142 2.635 4.927	1.252 0.857 0.168 2.566 4.899	1.270 0.877 0.187 2.489 4.867	1.290 0.898 0.200 2.407 4.832	1.311 0.920 0.205 2.322 4.795
0.85	1.213 0.800 0.000 2.756 4.962	1.215 0.802 0.039 2.747 4.959	1.220 0.809 0.077 2.721 4.949	1.230 0.819 0.113 2.679 4.933	1.243 0.834 0.144 2.623 4.911	1.258 0.851 0.170 2.555 4.885	1.276 0.871 0.189 2.478 4.853	1.296 0.892 0.202 2.396 4.819	1.317 0.915 0.207 2.312 4.783
0.90	1.219 0.794 0.000 2.741 4.944	1.221 0.796 0.040 2.733 4.940	1.227 0.803 0.078 2.707 4.931	1.236 0.813 0.114 2.665 4.916	1.249 0.828 0.146 2.610 4.895	1.264 0.845 0.172 2.542 4.869	1.282 0.865 0.192 2.467 4.839	1.302 0.887 0.204 2.385 4.806	1.322 0.909 0.210 2.302 4.770
0.95	1.226 0.787 0.000 2.726 4.924	1.228 0.790 0.040 2.718 4.921	1.233 0.796 0.079 2.692 4.912	1.243 0.807 0.115 2.651 4.898	1.255 0.822 0.147 2.596 4.878	1.270 0.840 0.174 2.530 4.853	1.288 0.860 0.194 2.455 4.824	1.307 0.881 0.207 2.374 4.791	1.328 0.904 0.212 2.291 4.756
1.00	1.232 0.781 0.000 2.710 4.903	1.234 0.784 0.041 2.702 4.901	1.240 0.790 0.080 2.677 4.892	1.249 0.801 0.117 2.636 4.879	1.261 0.816 0.149 2.582 4.860	1.276 0.834 0.176 2.516 4.836	1.294 0.854 0.196 2.442 4.808	1.313 0.876 0.209 2.362 4.776	1.333 0.899 0.214 2.280 4.741
F_x	1.073	1.073	1.072	1.071	1.069	1.068	1.065	1.062	1.059

$$M_{\infty} = 6, \beta_{\kappa} = 40^{\circ}, \alpha = 5^{\circ}$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.00	1.159	1.168	1.177	1.185	1.192	1.196	1.199	1.339	1.200
	0.972	0.980	0.988	0.994	1.000	1.004	1.006	1.123	1.007
	0.104	0.097	0.087	0.074	0.058	0.039	0.020	0.000	0.000
	2.317	2.236	2.164	2.103	2.054	2.019	1.997	1.990	1.990
0.05	4.384	4.274	4.176	4.091	4.023	3.973	3.943	4.731	3.933
	1.240	1.263	1.285	1.305	1.321	1.334	1.342	1.344	
	1.028	1.047	1.066	1.083	1.097	1.107	1.114	1.116	
	0.121	0.114	0.103	0.088	0.069	0.047	0.024	0.000	
0.10	2.317	2.236	2.164	2.103	2.054	2.019	1.997	1.990	
	4.785	4.755	4.735	4.726	4.724	4.726	4.729	4.731	
	1.248	1.271	1.293	1.312	1.328	1.340	1.347	1.350	
	1.022	1.042	1.060	1.077	1.091	1.101	1.107	1.109	
0.15	0.134	0.127	0.115	0.098	0.077	0.053	0.027	0.000	
	2.316	2.235	2.163	2.102	2.053	2.018	1.996	1.989	
	4.802	4.771	4.750	4.736	4.730	4.728	4.728	4.729	
	1.256	1.278	1.300	1.318	1.334	1.346	1.353	1.356	
0.20	1.017	1.036	1.055	1.071	1.085	1.095	1.101	1.103	
	0.144	0.136	0.124	0.106	0.084	0.058	0.029	0.000	
	2.314	2.234	2.162	2.100	2.051	2.016	1.994	1.987	
	4.812	4.781	4.757	4.741	4.732	4.728	4.726	4.725	
0.25	1.263	1.285	1.306	1.325	1.340	1.351	1.358	1.361	
	1.010	1.030	1.049	1.065	1.078	1.089	1.095	1.097	
	0.152	0.144	0.131	0.112	0.088	0.061	0.031	0.000	
	2.312	2.232	2.159	2.098	2.049	2.013	1.992	1.984	
0.30	4.818	4.786	4.761	4.743	4.732	4.725	4.722	4.721	
	1.269	1.291	1.312	1.330	1.346	1.357	1.364	1.366	
	1.004	1.024	1.043	1.059	1.073	1.083	1.089	1.091	
	0.159	0.151	0.137	0.117	0.093	0.064	0.033	0.000	
0.35	2.309	2.229	2.157	2.095	2.046	2.010	1.988	1.981	
	4.821	4.788	4.762	4.743	4.730	4.722	4.717	4.716	
	1.276	1.298	1.318	1.336	1.351	1.362	1.369	1.371	
	0.998	1.018	1.037	1.053	1.067	1.077	1.083	1.085	
0.40	0.165	0.156	0.142	0.122	0.096	0.066	0.034	0.000	
	2.306	2.225	2.153	2.092	2.042	2.007	1.985	1.977	
	4.822	4.789	4.762	4.741	4.726	4.717	4.711	4.710	
	1.282	1.303	1.324	1.342	1.356	1.367	1.374	1.376	
0.45	0.992	1.012	1.031	1.047	1.061	1.071	1.077	1.080	
	0.170	0.161	0.146	0.125	0.099	0.068	0.035	0.000	
	2.301	2.221	2.149	2.088	2.038	2.002	1.981	1.973	
	4.821	4.788	4.760	4.738	4.721	4.711	4.704	4.702	
0.50	1.288	1.309	1.329	1.347	1.362	1.372	1.379	1.381	
	0.986	1.007	1.025	1.042	1.056	1.066	1.072	1.074	
	0.175	0.166	0.151	0.129	0.102	0.070	0.036	0.000	
	2.297	2.216	2.144	2.083	2.034	1.998	1.976	1.968	
0.55	4.819	4.785	4.756	4.733	4.716	4.704	4.697	4.694	
	1.293	1.315	1.335	1.352	1.367	1.378	1.384	1.386	
	0.981	1.001	1.020	1.036	1.050	1.060	1.067	1.069	
	0.179	0.170	0.154	0.132	0.104	0.072	0.037	0.000	
0.60	2.291	2.211	2.139	2.078	2.029	1.992	1.971	1.963	
	4.815	4.781	4.751	4.727	4.709	4.696	4.688	4.685	
	1.299	1.320	1.340	1.358	1.372	1.383	1.389	1.391	
	0.975	0.995	1.014	1.031	1.045	1.055	1.061	1.063	
0.65	0.183	0.174	0.158	0.135	0.107	0.074	0.037	0.000	
	2.285	2.205	2.134	2.072	2.023	1.987	1.965	1.958	
	4.810	4.775	4.745	4.720	4.701	4.687	4.679	4.676	

$$M_{\infty} = 6, \beta_{\kappa} = 40^{\circ}, \alpha = 5^{\circ}$$

ξ	ψ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.55	1.305 0.969 0.187 2.279 4.804	1.326 0.990 0.177 2.199 4.769	1.346 1.009 0.161 2.128 4.738	1.363 1.026 0.138 2.066 4.712	1.377 1.040 0.109 2.017 4.692	1.387 1.050 0.075 1.981 4.677	1.394 1.056 0.038 1.959 4.668	1.396 1.058 0.000 1.951 4.665	
0.60	1.310 0.964 0.190 2.272 4.797	1.331 0.984 0.181 2.193 4.761	1.351 1.004 0.164 2.121 4.730	1.368 1.020 0.140 2.060 4.703	1.382 1.034 0.110 2.010 4.682	1.392 1.045 0.076 1.974 4.667	1.399 1.051 0.039 1.952 4.657	1.401 1.053 0.000 1.945 4.654	
0.65	1.316 0.958 0.193 2.264 4.788	1.337 0.979 0.183 2.185 4.753	1.356 0.998 0.166 2.114 4.721	1.373 1.015 0.142 2.053 4.694	1.387 1.029 0.112 2.003 4.672	1.397 1.040 0.077 1.967 4.655	1.404 1.046 0.039 1.945 4.646	1.406 1.048 0.000 1.938 4.642	
0.70	1.321 0.953 0.196 2.257 4.779	1.342 0.974 0.186 2.178 4.744	1.361 0.993 0.169 2.106 4.711	1.378 1.010 0.144 2.045 4.683	1.392 1.024 0.114 1.996 4.660	1.402 1.035 0.078 1.960 4.643	1.408 1.041 0.040 1.938 4.633	1.411 1.043 0.000 1.931 4.630	
0.75	1.327 0.947 0.199 2.248 4.769	1.347 0.969 0.189 2.170 4.733	1.366 0.988 0.171 2.099 4.700	1.383 1.005 0.146 2.038 4.672	1.397 1.019 0.115 1.988 4.648	1.407 1.030 0.079 1.952 4.631	1.413 1.036 0.040 1.930 4.620	1.415 1.039 0.000 1.923 4.616	
0.80	1.332 0.942 0.202 2.239 4.758	1.352 0.963 0.191 2.161 4.722	1.371 0.983 0.173 2.090 4.689	1.388 1.000 0.148 2.029 4.660	1.401 1.015 0.117 1.980 4.635	1.412 1.025 0.080 1.944 4.617	1.418 1.032 0.041 1.922 4.606	1.420 1.034 0.000 1.915 4.602	
0.85	1.338 0.937 0.204 2.230 4.746	1.358 0.958 0.193 2.152 4.710	1.376 0.978 0.175 2.081 4.676	1.393 0.996 0.149 2.021 4.647	1.406 1.010 0.118 1.972 4.622	1.416 1.020 0.081 1.935 4.603	1.423 1.027 0.041 1.914 4.592	1.425 1.029 0.000 1.906 4.588	
0.90	1.343 0.932 0.207 2.220 4.733	1.363 0.953 0.196 2.143 4.697	1.381 0.973 0.177 2.072 4.663	1.398 0.991 0.151 2.012 4.633	1.411 1.005 0.119 1.963 4.607	1.421 1.016 0.082 1.927 4.588	1.427 1.022 0.042 1.905 4.576	1.429 1.025 0.000 1.897 4.572	
0.95	1.348 0.927 0.209 2.210 4.720	1.368 0.948 0.198 2.133 4.684	1.386 0.968 0.179 2.063 4.649	1.403 0.986 0.152 2.002 4.618	1.416 1.000 0.120 1.953 4.592	1.426 1.011 0.083 1.917 4.573	1.432 1.018 0.042 1.895 4.560	1.434 1.020 0.000 1.888 4.556	
1.00	1.353 0.922 0.211 2.199 4.705	1.373 0.944 0.199 2.122 4.669	1.391 0.964 0.180 2.053 4.635	1.408 0.981 0.154 1.992 4.603	1.421 0.996 0.121 1.943 4.577	1.431 1.006 0.083 1.908 4.556	1.437 1.013 0.042 1.886 4.544	1.439 1.015 0.000 1.878 4.540	
F_x	1.056	1.052	1.048	1.045	1.042	1.040	1.039	1.038	

$$M_{\infty} = 6, \beta_{\infty} = 40^{\circ}, \alpha = 10^{\circ}$$

ξ	ψ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.00	0.958	0.960	0.966	0.976	0.990	1.007	1.026	1.048	1.071
	0.804	0.806	0.811	0.819	0.831	0.845	0.861	0.879	0.899
	0.000	0.043	0.085	0.124	0.159	0.188	0.211	0.226	0.231
	3.339	3.317	3.251	3.146	3.009	2.847	2.670	2.488	2.309
	5.272	5.247	5.173	5.053	4.894	4.705	4.494	4.273	4.051
0.05	0.966	0.970	0.980	0.998	1.022	1.051	1.086	1.126	1.169
	0.795	0.798	0.807	0.822	0.842	0.868	0.898	0.931	0.968
	0.000	0.048	0.094	0.137	0.175	0.207	0.231	0.246	0.251
	3.338	3.316	3.251	3.146	3.009	2.848	2.672	2.490	2.310
	5.272	5.253	5.199	5.112	4.999	4.867	4.725	4.583	4.454
0.10	0.974	0.978	0.989	1.007	1.032	1.063	1.100	1.140	1.184
	0.786	0.789	0.799	0.815	0.836	0.864	0.895	0.930	0.968
	0.000	0.051	0.101	0.147	0.188	0.222	0.248	0.265	0.272
	3.336	3.314	3.249	3.145	3.009	2.848	2.672	2.491	2.311
	5.269	5.252	5.202	5.122	5.018	4.896	4.766	4.635	4.516
0.15	0.982	0.986	0.997	1.016	1.042	1.073	1.110	1.151	1.196
	0.777	0.780	0.790	0.807	0.830	0.858	0.891	0.927	0.966
	0.000	0.054	0.106	0.155	0.198	0.234	0.262	0.281	0.289
	3.333	3.311	3.246	3.143	3.007	2.848	2.672	2.491	2.312
	5.266	5.250	5.203	5.128	5.031	4.916	4.794	4.671	4.558
0.20	0.990	0.994	1.005	1.024	1.050	1.082	1.120	1.161	1.206
	0.768	0.771	0.782	0.799	0.823	0.852	0.886	0.923	0.962
	0.000	0.056	0.111	0.162	0.207	0.245	0.275	0.294	0.304
	3.328	3.307	3.242	3.140	3.005	2.846	2.672	2.491	2.312
	5.260	5.245	5.201	5.131	5.039	4.931	4.815	4.699	4.591
0.25	0.997	1.001	1.013	1.032	1.058	1.091	1.128	1.170	1.214
	0.759	0.763	0.774	0.792	0.816	0.846	0.880	0.918	0.958
	0.000	0.058	0.115	0.168	0.215	0.255	0.286	0.306	0.316
	3.323	3.301	3.237	3.136	3.002	2.844	2.670	2.490	2.312
	5.254	5.240	5.198	5.132	5.045	4.943	4.832	4.721	4.617
0.30	1.005	1.009	1.021	1.040	1.066	1.099	1.136	1.178	1.222
	0.751	0.755	0.766	0.784	0.809	0.839	0.874	0.913	0.953
	0.000	0.060	0.119	0.174	0.223	0.264	0.296	0.317	0.328
	3.316	3.294	3.231	3.130	2.998	2.841	2.668	2.489	2.311
	5.246	5.233	5.193	5.131	5.048	4.951	4.846	4.739	4.639
0.35	1.013	1.017	1.028	1.048	1.074	1.106	1.144	1.186	1.230
	0.743	0.746	0.758	0.777	0.802	0.833	0.868	0.907	0.948
	0.000	0.062	0.123	0.179	0.230	0.272	0.305	0.327	0.338
	3.308	3.286	3.224	3.124	2.993	2.837	2.665	2.487	2.310
	5.237	5.224	5.187	5.128	5.050	4.957	4.857	4.754	4.657
0.40	1.020	1.024	1.036	1.055	1.082	1.114	1.151	1.193	1.237
	0.735	0.738	0.750	0.769	0.795	0.826	0.862	0.902	0.943
	0.000	0.064	0.126	0.184	0.236	0.280	0.314	0.337	0.348
	3.299	3.278	3.216	3.117	2.987	2.832	2.662	2.484	2.308
	5.227	5.215	5.180	5.124	5.050	4.962	4.866	4.767	4.673
0.45	1.028	1.032	1.044	1.063	1.089	1.121	1.159	1.200	1.244
	0.727	0.731	0.742	0.762	0.788	0.820	0.856	0.896	0.938
	0.000	0.066	0.130	0.189	0.242	0.287	0.322	0.345	0.357
	3.289	3.268	3.207	3.109	2.980	2.827	2.658	2.481	2.305
	5.215	5.204	5.171	5.118	5.048	4.964	4.873	4.778	4.686
0.50	1.035	1.039	1.051	1.070	1.096	1.128	1.165	1.207	1.250
	0.719	0.723	0.735	0.755	0.781	0.813	0.850	0.891	0.933
	0.000	0.067	0.133	0.193	0.248	0.293	0.329	0.353	0.365
	3.278	3.257	3.197	3.100	2.972	2.821	2.653	2.478	2.303
	5.203	5.192	5.161	5.111	5.045	4.966	4.873	4.787	4.697

$$M_{\infty} = 6, \beta_K = 40^\circ, \alpha = 10^\circ$$

ξ	θ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.55	1.043	1.047	1.058	1.077	1.103	1.135	1.172	1.213	1.256
	0.711	0.715	0.728	0.747	0.774	0.807	0.845	0.885	0.928
	0.000	0.069	0.135	0.198	0.253	0.300	0.336	0.361	0.372
	3.266	3.245	3.186	3.090	2.964	2.814	2.648	2.474	2.299
0.60	5.189	5.179	5.150	5.103	5.040	4.965	4.881	4.794	4.706
	1.050	1.054	1.066	1.085	1.110	1.142	1.179	1.219	1.262
	0.704	0.708	0.720	0.740	0.768	0.801	0.839	0.880	0.923
	0.000	0.070	0.138	0.202	0.258	0.306	0.343	0.368	0.380
0.65	3.253	3.233	3.174	3.080	2.955	2.807	2.642	2.469	2.296
	5.175	5.165	5.138	5.094	5.035	4.963	4.884	4.799	4.714
	1.058	1.062	1.073	1.092	1.117	1.149	1.185	1.225	1.268
	0.696	0.700	0.713	0.734	0.761	0.795	0.833	0.874	0.918
0.70	0.000	0.071	0.141	0.205	0.263	0.311	0.349	0.374	0.386
	3.239	3.219	3.162	3.069	2.945	2.799	2.635	2.464	2.292
	5.159	5.150	5.125	5.083	5.028	4.961	4.884	4.803	4.720
	1.065	1.069	1.080	1.099	1.124	1.155	1.192	1.231	1.274
0.75	0.689	0.693	0.706	0.727	0.755	0.789	0.827	0.869	0.913
	0.000	0.073	0.143	0.209	0.268	0.317	0.355	0.381	0.393
	3.225	3.205	3.148	3.056	2.935	2.790	2.628	2.458	2.287
	5.143	5.135	5.111	5.072	5.020	4.956	4.884	4.806	4.725
0.80	1.073	1.076	1.088	1.106	1.131	1.162	1.198	1.237	1.279
	0.682	0.686	0.699	0.720	0.748	0.782	0.822	0.864	0.908
	0.000	0.074	0.146	0.213	0.272	0.322	0.361	0.386	0.399
	3.209	3.190	3.134	3.044	2.924	2.781	2.621	2.452	2.282
0.85	5.125	5.118	5.096	5.060	5.011	4.951	4.882	4.807	4.729
	1.080	1.084	1.095	1.113	1.138	1.168	1.204	1.243	1.285
	0.674	0.679	0.692	0.713	0.742	0.776	0.816	0.859	0.903
	0.000	0.075	0.148	0.216	0.276	0.327	0.366	0.392	0.404
0.90	3.193	3.174	3.119	3.030	2.912	2.771	2.613	2.446	2.277
	5.107	5.100	5.079	5.046	5.001	4.945	4.879	4.807	4.731
	1.087	1.091	1.102	1.120	1.145	1.175	1.210	1.249	1.290
	0.667	0.672	0.685	0.707	0.735	0.771	0.810	0.853	0.898
0.95	0.000	0.076	0.150	0.219	0.280	0.332	0.371	0.397	0.409
	3.176	3.158	3.103	3.016	2.900	2.760	2.604	2.439	2.271
	5.087	5.081	5.062	5.032	4.990	4.937	4.875	4.806	4.732
	1.095	1.099	1.109	1.127	1.151	1.181	1.216	1.254	1.295
1.00	0.660	0.665	0.678	0.700	0.729	0.765	0.805	0.848	0.893
	0.000	0.077	0.152	0.222	0.284	0.336	0.376	0.403	0.415
	3.158	3.140	3.087	3.001	2.887	2.749	2.595	2.431	2.265
	5.067	5.061	5.044	5.016	4.977	4.929	4.870	4.804	4.732
F_x	1.102	1.106	1.117	1.134	1.158	1.188	1.222	1.260	1.300
	0.653	0.658	0.672	0.694	0.723	0.759	0.799	0.843	0.888
	0.000	0.078	0.155	0.225	0.288	0.340	0.381	0.407	0.419
	3.140	3.122	3.070	2.985	2.873	2.737	2.585	2.424	2.259
F_x	5.046	5.041	5.025	5.000	4.964	4.919	4.864	4.801	4.731
	1.110	1.113	1.124	1.141	1.165	1.194	1.228	1.265	1.305
	0.647	0.651	0.665	0.687	0.717	0.753	0.794	0.838	0.884
	0.000	0.079	0.157	0.228	0.291	0.345	0.385	0.412	0.424
F_x	3.120	3.103	3.052	2.969	2.858	2.725	2.575	2.415	2.252
	5.023	5.019	5.005	4.982	4.950	4.908	4.857	4.797	4.729
	1.099	1.099	1.099	1.097	1.096	1.093	1.090	1.085	1.079

$$M_{\infty} = 6, \beta_{\kappa} = 40^{\circ}, \alpha = 10^{\circ}$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.00	1.095	1.118	1.139	1.158	1.173	1.184	1.191	1.438	1.193
	0.919	0.938	0.956	0.972	0.984	0.994	0.999	1.206	1.001
	0.227	0.213	0.188	0.157	0.120	0.081	0.041	0.000	0.000
	2.140	1.989	1.859	1.752	1.671	1.614	1.580	1.569	1.569
	3.837	3.641	3.470	3.327	3.216	3.137	3.090	4.438	3.074
0.05	1.214	1.261	1.308	1.351	1.389	1.418	1.437	1.443	
	1.007	1.047	1.086	1.123	1.155	1.179	1.195	1.203	
	0.247	0.233	0.209	0.178	0.140	0.097	0.050	0.003	
	2.142	1.990	1.859	1.753	1.671	1.614	1.580	1.568	
	4.347	4.275	4.245	4.260	4.308	4.369	4.418	4.437	
0.10	1.230	1.277	1.322	1.363	1.399	1.426	1.442	1.448	
	1.008	1.048	1.087	1.122	1.152	1.175	1.189	1.194	
	0.269	0.255	0.232	0.200	0.159	0.111	0.057	0.000	
	2.143	1.991	1.870	1.753	1.671	1.613	1.579	1.567	
	4.417	4.349	4.316	4.320	4.350	4.390	4.423	4.435	
0.15	1.242	1.288	1.332	1.372	1.406	1.432	1.448	1.453	
	1.006	1.046	1.084	1.119	1.148	1.170	1.184	1.188	
	0.287	0.273	0.250	0.216	0.173	0.121	0.062	0.000	
	2.143	1.991	1.860	1.753	1.670	1.612	1.577	1.566	
	4.464	4.397	4.361	4.357	4.374	4.401	4.424	4.432	
0.20	1.252	1.297	1.341	1.380	1.413	1.437	1.453	1.458	
	1.003	1.043	1.081	1.115	1.144	1.165	1.179	1.183	
	0.302	0.288	0.264	0.229	0.183	0.128	0.066	0.000	
	2.144	1.991	1.860	1.752	1.669	1.610	1.576	1.564	
	4.500	4.433	4.394	4.382	4.391	4.408	4.422	4.428	
0.25	1.260	1.305	1.348	1.387	1.419	1.443	1.457	1.462	
	0.999	1.039	1.077	1.111	1.139	1.160	1.174	1.178	
	0.315	0.301	0.276	0.239	0.192	0.134	0.069	0.000	
	2.143	1.991	1.859	1.751	1.667	1.608	1.573	1.561	
	4.528	4.461	4.419	4.401	4.402	4.411	4.420	4.423	
0.30	1.268	1.313	1.355	1.393	1.424	1.447	1.462	1.467	
	0.994	1.034	1.072	1.106	1.134	1.155	1.169	1.173	
	0.326	0.313	0.287	0.249	0.199	0.139	0.071	0.000	
	2.143	1.990	1.858	1.749	1.665	1.606	1.570	1.559	
	4.552	4.484	4.439	4.416	4.409	4.412	4.416	4.417	
0.35	1.275	1.319	1.361	1.399	1.429	1.452	1.466	1.471	
	0.990	1.030	1.068	1.101	1.130	1.151	1.164	1.168	
	0.337	0.323	0.296	0.257	0.205	0.143	0.074	0.000	
	2.142	1.989	1.856	1.747	1.663	1.603	1.567	1.555	
	4.572	4.503	4.455	4.427	4.414	4.411	4.411	4.411	
0.40	1.282	1.326	1.367	1.404	1.434	1.457	1.470	1.475	
	0.985	1.025	1.063	1.097	1.125	1.146	1.159	1.164	
	0.346	0.332	0.304	0.264	0.211	0.147	0.075	0.000	
	2.140	1.987	1.854	1.745	1.660	1.600	1.564	1.552	
	4.588	4.519	4.468	4.436	4.417	4.408	4.405	4.404	
0.45	1.288	1.332	1.373	1.409	1.439	1.461	1.475	1.479	
	0.980	1.021	1.059	1.092	1.120	1.142	1.155	1.159	
	0.355	0.340	0.312	0.270	0.216	0.150	0.077	0.000	
	2.138	1.985	1.852	1.742	1.657	1.596	1.560	1.548	
	4.603	4.533	4.479	4.442	4.418	4.405	4.398	4.396	
0.50	1.294	1.338	1.378	1.414	1.444	1.466	1.479	1.483	
	0.975	1.016	1.054	1.088	1.116	1.137	1.150	1.155	
	0.363	0.348	0.319	0.276	0.220	0.153	0.078	0.000	
	2.136	1.983	1.850	1.739	1.653	1.592	1.556	1.544	
	4.615	4.544	4.488	4.446	4.418	4.400	4.390	4.387	

$$M_{\infty} = 6, \beta_{\kappa} = 40^{\circ}, \alpha = 10^{\circ}$$

η	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.55	1.300	1.343	1.383	1.419	1.448	1.470	1.483	1.487	
	0.970	1.011	1.050	1.083	1.112	1.133	1.146	1.150	
	0.371	0.355	0.325	0.281	0.224	0.156	0.080	0.000	
	2.133	1.980	1.847	1.736	1.649	1.588	1.551	1.539	
0.60	4.625	4.553	4.494	4.449	4.417	4.395	4.382	4.378	
	1.306	1.349	1.388	1.424	1.453	1.474	1.487	1.491	
	0.965	1.007	1.045	1.079	1.107	1.129	1.142	1.146	
	0.378	0.361	0.331	0.286	0.227	0.158	0.081	0.000	
0.65	2.130	1.977	1.843	1.732	1.645	1.584	1.547	1.534	
	4.633	4.561	4.500	4.451	4.414	4.388	4.373	4.368	
	1.311	1.354	1.393	1.428	1.457	1.478	1.491	1.495	
	0.961	1.002	1.041	1.075	1.103	1.124	1.138	1.142	
0.70	0.384	0.367	0.336	0.290	0.231	0.160	0.082	0.000	
	2.126	1.974	1.840	1.728	1.641	1.579	1.542	1.529	
	4.640	4.567	4.503	4.451	4.410	4.381	4.364	4.358	
	1.317	1.359	1.398	1.433	1.461	1.482	1.495	1.499	
0.75	0.956	0.998	1.036	1.071	1.099	1.120	1.134	1.138	
	0.390	0.373	0.341	0.294	0.234	0.162	0.083	0.000	
	2.122	1.970	1.836	1.724	1.636	1.574	1.536	1.524	
	4.646	4.572	4.506	4.450	4.405	4.373	4.353	4.347	
0.80	1.322	1.364	1.403	1.437	1.465	1.486	1.499	1.503	
	0.951	0.993	1.032	1.066	1.095	1.116	1.130	1.134	
	0.396	0.378	0.345	0.297	0.236	0.164	0.084	0.000	
	2.118	1.966	1.832	1.720	1.631	1.568	1.531	1.518	
0.85	4.650	4.575	4.507	4.448	4.400	4.364	4.342	4.335	
	1.327	1.368	1.407	1.441	1.469	1.490	1.503	1.507	
	0.947	0.989	1.028	1.062	1.091	1.112	1.126	1.130	
	0.401	0.383	0.349	0.301	0.239	0.166	0.085	0.000	
0.90	2.113	1.962	1.828	1.715	1.626	1.563	1.525	1.512	
	4.653	4.577	4.507	4.444	4.393	4.355	4.331	4.323	
	1.332	1.373	1.411	1.445	1.473	1.494	1.507	1.511	
	0.942	0.985	1.024	1.058	1.087	1.108	1.122	1.126	
0.95	0.406	0.388	0.353	0.304	0.241	0.167	0.085	0.000	
	2.109	1.957	1.823	1.710	1.621	1.557	1.519	1.506	
	4.655	4.578	4.506	4.440	4.386	4.345	4.319	4.310	
	1.337	1.378	1.416	1.450	1.477	1.498	1.510	1.515	
1.00	0.938	0.980	1.020	1.054	1.083	1.105	1.118	1.123	
	0.411	0.392	0.357	0.307	0.243	0.168	0.086	0.000	
	2.103	1.952	1.818	1.705	1.615	1.551	1.512	1.499	
	4.656	4.578	4.504	4.435	4.378	4.334	4.306	4.297	
F _x	1.342	1.382	1.420	1.454	1.481	1.502	1.514	1.519	
	0.933	0.976	1.016	1.050	1.079	1.101	1.114	1.119	
	0.416	0.396	0.360	0.309	0.245	0.170	0.087	0.000	
	2.098	1.947	1.813	1.699	1.609	1.544	1.506	1.492	
F _x	4.655	4.577	4.501	4.430	4.369	4.322	4.293	4.283	
	1.346	1.387	1.424	1.458	1.485	1.506	1.518	1.522	
	0.929	0.972	1.012	1.047	1.075	1.097	1.110	1.115	
	0.420	0.400	0.363	0.312	0.247	0.171	0.087	0.000	
F _x	2.092	1.942	1.807	1.693	1.603	1.538	1.499	1.485	
	4.654	4.576	4.497	4.423	4.359	4.310	4.279	4.268	
	1.073	1.065	1.057	1.048	1.040	1.034	1.030	1.028	

$$M_{\infty} = 6, \beta_{\kappa} = 45^{\circ}, \alpha = 2^{\circ}30'$$

ξ	θ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.00	0.934	0.934	0.936	0.938	0.941	0.944	0.949	0.953	0.958
	0.934	0.934	0.936	0.938	0.941	0.944	0.949	0.953	0.958
	0.000	0.010	0.020	0.029	0.037	0.043	0.048	0.051	0.052
	3.164	3.159	3.145	3.122	3.092	3.056	3.015	2.970	2.925
	5.206	5.201	5.184	5.157	5.122	5.078	5.029	4.977	4.923
0.05	0.942	0.943	0.947	0.952	0.959	0.968	0.979	0.991	1.003
	0.926	0.927	0.930	0.936	0.943	0.952	0.963	0.975	0.987
	0.000	0.012	0.024	0.035	0.045	0.052	0.058	0.062	0.063
	3.163	3.159	3.144	3.122	3.092	3.055	3.014	2.970	2.925
	5.205	5.203	5.196	5.185	5.170	5.153	5.135	5.117	5.101
0.10	0.950	0.951	0.955	0.960	0.968	0.977	0.987	0.999	1.011
	0.918	0.919	0.922	0.928	0.936	0.945	0.956	0.968	0.980
	0.000	0.013	0.026	0.039	0.049	0.058	0.065	0.069	0.070
	3.161	3.157	3.143	3.120	3.090	3.053	3.012	2.968	2.923
	5.203	5.201	5.194	5.184	5.170	5.154	5.137	5.119	5.103
0.15	0.958	0.959	0.963	0.968	0.976	0.985	0.995	1.007	1.019
	0.910	0.911	0.915	0.921	0.928	0.938	0.949	0.961	0.973
	0.000	0.014	0.028	0.041	0.053	0.062	0.069	0.074	0.076
	3.158	3.153	3.139	3.117	3.087	3.050	3.009	2.966	2.921
	5.199	5.197	5.191	5.181	5.168	5.152	5.136	5.119	5.103
0.20	0.966	0.967	0.970	0.976	0.983	0.993	1.003	1.015	1.026
	0.903	0.904	0.907	0.913	0.921	0.931	0.942	0.954	0.967
	0.000	0.015	0.030	0.044	0.056	0.066	0.073	0.078	0.080
	3.154	3.149	3.135	3.113	3.083	3.046	3.006	2.962	2.917
	5.194	5.192	5.186	5.176	5.164	5.149	5.133	5.116	5.100
0.25	0.974	0.975	0.978	0.984	0.991	1.000	1.011	1.022	1.034
	0.896	0.897	0.900	0.906	0.914	0.924	0.935	0.947	0.960
	0.000	0.016	0.031	0.046	0.058	0.069	0.077	0.082	0.084
	3.148	3.144	3.130	3.108	3.078	3.042	3.001	2.957	2.912
	5.188	5.186	5.180	5.171	5.158	5.144	5.128	5.112	5.096
0.30	0.981	0.982	0.986	0.991	0.999	1.008	1.018	1.029	1.041
	0.889	0.890	0.893	0.899	0.908	0.917	0.929	0.941	0.954
	0.000	0.016	0.032	0.047	0.060	0.071	0.080	0.085	0.087
	3.142	3.137	3.124	3.101	3.072	3.036	2.995	2.952	2.907
	5.180	5.179	5.173	5.164	5.152	5.138	5.123	5.107	5.091
0.35	0.989	0.990	0.993	0.999	1.006	1.015	1.025	1.037	1.048
	0.882	0.883	0.887	0.893	0.901	0.911	0.922	0.935	0.948
	0.000	0.017	0.033	0.049	0.062	0.074	0.082	0.088	0.090
	3.135	3.130	3.116	3.094	3.065	3.029	2.989	2.945	2.901
	5.172	5.170	5.165	5.156	5.144	5.131	5.116	5.100	5.085
0.40	0.996	0.997	1.001	1.006	1.013	1.022	1.032	1.044	1.055
	0.875	0.876	0.880	0.886	0.895	0.905	0.916	0.928	0.941
	0.000	0.017	0.034	0.050	0.064	0.076	0.085	0.090	0.092
	3.127	3.122	3.108	3.086	3.057	3.021	2.981	2.938	2.894
	5.162	5.161	5.155	5.147	5.136	5.122	5.108	5.092	5.077
0.45	1.003	1.005	1.008	1.013	1.020	1.029	1.039	1.051	1.062
	0.869	0.870	0.874	0.880	0.888	0.898	0.910	0.922	0.936
	0.000	0.018	0.035	0.052	0.066	0.078	0.087	0.092	0.095
	3.118	3.113	3.100	3.078	3.049	3.013	2.973	2.930	2.886
	5.152	5.150	5.145	5.137	5.126	5.113	5.099	5.083	5.068
0.50	1.011	1.012	1.015	1.020	1.028	1.036	1.046	1.057	1.069
	0.863	0.864	0.868	0.874	0.882	0.892	0.904	0.917	0.930
	0.000	0.018	0.036	0.053	0.067	0.080	0.089	0.094	0.097
	3.108	3.104	3.090	3.068	3.039	3.004	2.964	2.922	2.877
	5.140	5.139	5.134	5.126	5.115	5.103	5.089	5.074	5.059

$$M_{\infty} = 6, \beta_{\infty} = 45^{\circ}, \alpha = 2^{\circ}30'$$

ξ	θ								
	0°00'	11°15'	22°30'	33°45'	45°00'	56°15'	67°30'	78°45'	90°00'
0.55	1.018 0.857 0.000 3.098 5.128	1.019 0.858 0.019 3.093 5.127	1.022 0.862 0.037 3.080 5.122	1.027 0.868 0.054 3.058 5.114	1.035 0.876 0.069 3.029 5.104	1.043 0.887 0.081 2.994 5.091	1.053 0.898 0.090 2.955 5.078	1.064 0.911 0.096 2.912 5.063	1.075 0.924 0.099 2.868 5.048
0.60	1.025 0.851 0.000 3.087 5.115	1.026 0.852 0.019 3.082 5.113	1.029 0.856 0.038 3.069 5.109	1.034 0.862 0.055 3.048 5.101	1.041 0.871 0.070 3.019 5.091	1.050 0.881 0.083 2.984 5.079	1.060 0.893 0.092 2.945 5.066	1.071 0.905 0.098 2.902 5.052	1.082 0.919 0.100 2.859 5.037
0.65	1.032 0.845 0.000 3.075 5.101	1.033 0.846 0.019 3.071 5.100	1.036 0.850 0.038 3.057 5.095	1.041 0.856 0.056 3.036 5.088	1.048 0.865 0.071 3.008 5.078	1.057 0.875 0.084 2.973 5.067	1.067 0.887 0.094 2.934 5.053	1.077 0.900 0.100 2.892 5.039	1.089 0.913 0.102 2.849 5.025
0.70	1.039 0.839 0.000 3.063 5.087	1.040 0.841 0.020 3.058 5.085	1.043 0.844 0.039 3.045 5.081	1.048 0.851 0.057 3.024 5.074	1.055 0.859 0.072 2.996 5.064	1.064 0.870 0.085 2.962 5.053	1.073 0.882 0.095 2.923 5.040	1.084 0.895 0.101 2.881 5.026	1.095 0.908 0.104 2.838 5.012
0.75	1.046 0.834 0.000 3.050 5.071	1.047 0.835 0.020 3.045 5.070	1.050 0.839 0.039 3.032 5.066	1.055 0.845 0.057 3.012 5.059	1.062 0.854 0.073 2.984 5.050	1.070 0.864 0.087 2.950 5.039	1.080 0.876 0.096 2.911 5.026	1.090 0.889 0.103 2.870 5.013	1.101 0.903 0.105 2.827 4.999
0.80	1.052 0.828 0.000 3.036 5.055	1.054 0.830 0.020 3.032 5.054	1.057 0.834 0.040 3.019 5.050	1.062 0.840 0.058 2.998 5.043	1.069 0.849 0.074 2.971 5.034	1.077 0.859 0.088 2.937 5.024	1.086 0.871 0.098 2.899 5.011	1.097 0.884 0.104 2.858 4.998	1.108 0.898 0.106 2.815 4.984
0.85	1.059 0.823 0.000 3.022 5.039	1.060 0.824 0.020 3.018 5.037	1.063 0.828 0.040 3.005 5.033	1.068 0.835 0.059 2.985 5.027	1.075 0.843 0.075 2.957 5.018	1.083 0.854 0.089 2.924 5.008	1.093 0.866 0.099 2.886 4.996	1.103 0.879 0.105 2.845 4.983	1.114 0.893 0.108 2.803 4.969
0.90	1.066 0.818 0.000 3.008 5.021	1.067 0.819 0.021 3.003 5.020	1.070 0.823 0.041 2.991 5.016	1.075 0.830 0.060 2.971 5.010	1.082 0.838 0.076 2.943 5.002	1.090 0.849 0.090 2.910 4.992	1.099 0.861 0.100 2.873 4.980	1.109 0.874 0.107 2.832 4.967	1.120 0.888 0.109 2.790 4.954
0.95	1.073 0.813 0.000 2.993 5.003	1.074 0.814 0.021 2.988 5.002	1.077 0.818 0.041 2.976 4.998	1.082 0.825 0.060 2.956 4.992	1.088 0.833 0.077 2.929 4.984	1.096 0.844 0.091 2.896 4.975	1.106 0.856 0.101 2.859 4.963	1.116 0.870 0.108 2.819 4.951	1.126 0.883 0.110 2.777 4.937
1.00	1.079 0.808 0.000 2.977 4.985	1.080 0.809 0.021 2.973 4.983	1.083 0.813 0.042 2.961 4.980	1.088 0.820 0.061 2.941 4.974	1.095 0.828 0.078 2.914 4.967	1.103 0.839 0.092 2.881 4.957	1.112 0.851 0.102 2.844 4.946	1.122 0.865 0.109 2.805 4.934	1.132 0.879 0.111 2.763 4.921
F_x	1.335	1.335	1.334	1.333	1.331	1.329	1.326	1.323	1.319

$$M_{\infty} = 6, \beta_K = 45^\circ, \alpha = 2^\circ 30'$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.00	0.963	0.967	0.972	0.975	0.978	0.981	0.982	1.061	0.982
	0.963	0.967	0.972	0.975	0.978	0.981	0.982	1.061	0.982
	0.051	0.048	0.043	0.036	0.028	0.019	0.010	0.000	0.000
	2.881	2.839	2.801	2.767	2.741	2.721	2.709	2.705	2.705
	4.869	4.818	4.772	4.731	4.699	4.674	4.660	5.051	4.655
0.05	1.015	1.027	1.038	1.048	1.057	1.063	1.067	1.068	
	1.000	1.012	1.023	1.033	1.042	1.048	1.052	1.053	
	0.062	0.058	0.053	0.045	0.035	0.024	0.012	0.000	
	2.880	2.838	2.800	2.767	2.740	2.720	2.708	2.704	
	5.086	5.074	5.065	5.058	5.054	5.052	5.051	5.050	
0.10	1.023	1.035	1.046	1.056	1.064	1.070	1.074	1.075	
	0.993	1.005	1.016	1.026	1.035	1.041	1.045	1.046	
	0.069	0.065	0.059	0.050	0.039	0.027	0.014	0.000	
	2.879	2.837	2.798	2.765	2.739	2.719	2.707	2.703	
	5.088	5.076	5.066	5.059	5.054	5.050	5.049	5.048	
0.15	1.031	1.043	1.054	1.063	1.071	1.077	1.081	1.082	
	0.986	0.998	1.010	1.020	1.028	1.034	1.038	1.039	
	0.074	0.070	0.063	0.054	0.042	0.029	0.015	0.000	
	2.876	2.834	2.796	2.763	2.736	2.716	2.704	2.700	
	5.088	5.075	5.065	5.057	5.051	5.048	5.045	5.045	
0.20	1.039	1.050	1.061	1.071	1.078	1.084	1.088	1.089	
	0.979	0.992	1.003	1.013	1.021	1.028	1.031	1.033	
	0.079	0.074	0.067	0.057	0.045	0.031	0.016	0.000	
	2.873	2.831	2.792	2.759	2.732	2.713	2.701	2.696	
	5.086	5.073	5.062	5.054	5.047	5.043	5.041	5.040	
0.25	1.046	1.057	1.068	1.078	1.085	1.091	1.095	1.096	
	0.973	0.985	0.997	1.007	1.015	1.021	1.025	1.026	
	0.082	0.078	0.070	0.060	0.047	0.032	0.016	0.000	
	2.868	2.826	2.788	2.755	2.728	2.708	2.696	2.692	
	5.082	5.069	5.058	5.049	5.042	5.038	5.035	5.034	
0.30	1.053	1.064	1.075	1.084	1.092	1.098	1.101	1.103	
	0.967	0.979	0.991	1.001	1.009	1.015	1.019	1.020	
	0.085	0.081	0.073	0.062	0.049	0.034	0.017	0.000	
	2.863	2.821	2.783	2.750	2.723	2.703	2.691	2.687	
	5.077	5.063	5.052	5.043	5.036	5.031	5.028	5.027	
0.35	1.060	1.071	1.082	1.091	1.099	1.104	1.108	1.109	
	0.960	0.973	0.985	0.995	1.003	1.009	1.013	1.014	
	0.088	0.083	0.075	0.064	0.050	0.035	0.018	0.000	
	2.857	2.815	2.777	2.744	2.717	2.697	2.685	2.681	
	5.070	5.057	5.045	5.036	5.029	5.024	5.020	5.019	
0.40	1.067	1.078	1.089	1.098	1.105	1.111	1.114	1.115	
	0.954	0.967	0.979	0.989	0.997	1.003	1.007	1.009	
	0.091	0.086	0.077	0.066	0.052	0.036	0.018	0.000	
	2.850	2.808	2.770	2.737	2.710	2.691	2.679	2.675	
	5.062	5.049	5.038	5.028	5.020	5.015	5.012	5.011	
0.45	1.074	1.085	1.095	1.104	1.112	1.117	1.121	1.122	
	0.949	0.961	0.973	0.983	0.992	0.998	1.002	1.003	
	0.093	0.088	0.079	0.068	0.053	0.037	0.018	0.000	
	2.842	2.801	2.763	2.730	2.703	2.684	2.672	2.667	
	5.054	5.041	5.029	5.019	5.011	5.006	5.002	5.001	
0.50	1.080	1.091	1.102	1.110	1.118	1.123	1.127	1.128	
	0.943	0.956	0.967	0.978	0.986	0.992	0.996	0.998	
	0.095	0.090	0.081	0.069	0.054	0.037	0.019	0.000	
	2.834	2.793	2.755	2.722	2.695	2.676	2.664	2.660	
	5.044	5.031	5.019	5.009	5.001	4.996	4.992	4.991	

$$M_{\infty}=6, \beta_K = 45^{\circ}, \alpha = 2^{\circ}30'$$

ξ	ϑ								
	101°15'	112°30'	123°45'	135°00'	146°15'	157°30'	168°45'	180°00'	180°00'
0.55	1.087	1.098	1.108	1.117	1.124	1.130	1.133	1.134	
	0.937	0.950	0.962	0.972	0.981	0.987	0.991	0.992	
	0.097	0.092	0.083	0.071	0.055	0.038	0.019	0.000	
	2.825	2.784	2.746	2.714	2.687	2.667	2.655	2.651	
0.60	5.034	5.021	5.009	4.999	4.990	4.985	4.981	4.980	
	1.093	1.104	1.114	1.123	1.130	1.136	1.139	1.140	
	0.932	0.945	0.957	0.967	0.976	0.982	0.986	0.987	
	0.099	0.093	0.084	0.072	0.056	0.039	0.020	0.000	
0.65	2.816	2.775	2.737	2.705	2.678	2.659	2.647	2.643	
	5.023	5.009	4.997	4.987	4.979	4.973	4.969	4.968	
	1.100	1.110	1.120	1.129	1.136	1.142	1.145	1.146	
	0.927	0.940	0.952	0.962	0.971	0.977	0.981	0.982	
0.70	0.100	0.095	0.086	0.073	0.057	0.039	0.020	0.000	
	2.806	2.765	2.728	2.695	2.669	2.649	2.637	2.633	
	5.011	4.997	4.985	4.975	4.967	4.960	4.957	4.955	
	1.106	1.117	1.127	1.135	1.142	1.148	1.151	1.152	
0.75	0.922	0.935	0.946	0.957	0.966	0.972	0.976	0.977	
	0.102	0.096	0.087	0.074	0.058	0.040	0.020	0.000	
	2.795	2.755	2.717	2.685	2.659	2.639	2.628	2.623	
	4.998	4.985	4.973	4.962	4.954	4.947	4.944	4.942	
0.80	1.112	1.123	1.133	1.141	1.148	1.153	1.157	1.158	
	0.916	0.929	0.942	0.952	0.961	0.967	0.971	0.972	
	0.103	0.098	0.088	0.075	0.059	0.041	0.020	0.000	
	2.784	2.744	2.707	2.675	2.648	2.629	2.617	2.613	
0.85	4.985	4.971	4.959	4.949	4.940	4.934	4.930	4.928	
	1.118	1.129	1.139	1.147	1.154	1.159	1.163	1.164	
	0.911	0.925	0.937	0.947	0.956	0.962	0.966	0.968	
	0.105	0.099	0.089	0.076	0.060	0.041	0.021	0.000	
0.90	2.773	2.733	2.696	2.664	2.638	2.618	2.606	2.602	
	4.970	4.957	4.945	4.934	4.926	4.919	4.915	4.914	
	1.125	1.135	1.145	1.153	1.160	1.165	1.168	1.169	
	0.907	0.920	0.932	0.943	0.951	0.958	0.962	0.963	
0.95	0.106	0.100	0.090	0.077	0.060	0.041	0.021	0.000	
	2.761	2.721	2.684	2.652	2.626	2.607	2.595	2.591	
	4.956	4.943	4.930	4.920	4.911	4.904	4.900	4.899	
	1.131	1.141	1.151	1.159	1.166	1.171	1.174	1.175	
1.00	0.902	0.915	0.927	0.938	0.947	0.953	0.957	0.959	
	0.107	0.101	0.091	0.078	0.061	0.042	0.021	0.000	
	2.748	2.709	2.672	2.641	2.615	2.595	2.584	2.580	
	4.940	4.927	4.915	4.904	4.895	4.889	4.885	4.883	
F_x	1.137	1.147	1.157	1.165	1.172	1.177	1.180	1.181	
	0.897	0.910	0.923	0.933	0.942	0.949	0.953	0.954	
	0.108	0.102	0.092	0.078	0.062	0.042	0.021	0.000	
	2.736	2.696	2.660	2.628	2.602	2.583	2.572	2.568	
	4.924	4.911	4.899	4.888	4.879	4.873	4.868	4.867	
F_x	1.143	1.153	1.162	1.171	1.177	1.182	1.186	1.187	
	0.892	0.906	0.918	0.929	0.938	0.944	0.948	0.950	
	0.109	0.103	0.093	0.079	0.062	0.043	0.022	0.000	
	2.722	2.683	2.647	2.616	2.590	2.571	2.559	2.555	
	4.907	4.894	4.882	4.871	4.862	4.856	4.852	4.850	
F_x	1.316	1.313	1.309	1.306	1.304	1.302	1.301	1.301	

AERODYNAMIC COEFFICIENTS IN BODY SYSTEMS OF COORDINATES

Coefficients	β_K	α	M_∞			
			2	3	5	7
c_0	5°	0°	0.03068	0.02830	0.02326	0.02062
c_0	10°	0°	0.1046	0.0875	0.0748	0.0698
		2°30'	0.1040	0.0876	0.0757	0.0710
		5°	—	0.0881	0.0785	0.0746
		7°30'	—	—	0.0831	0.0805
		10°	—	—	—	—
c_N	10°	0°	0.0000	0.0000	0.0000	0.0000
		2°30'	0.0802	0.0801	0.0814	0.0827
		5°	—	0.1625	0.1645	0.1658
		7°30'	—	—	0.2508	0.2506
c_m	10°	0°	0.0000	0.0000	0.0000	0.0000
		2°30'	-0.0535	-0.0534	-0.0543	-0.0551
		5°	—	-0.1083	-0.1097	-0.1106
		7°30'	—	—	-0.1672	-0.1670
c_0	15°	0°	0.2024	0.1732	0.1542	0.1478
		5°	0.2015	0.1752	0.1581	0.1519
		10°	0.2015	0.1814	0.1698	0.1648
		15°	—	—	—	—
c_N	15°	0°	0.0000	0.0000	0.0000	0.0000
		5°	0.1525	0.1550	0.1586	0.1607
		10°	0.3093	0.3142	0.3163	0.3175
		15°	—	—	—	—
c_m	15°	0°	0.0000	0.0000	0.0000	0.0000
		5°	-0.1017	-0.1033	-0.1057	-0.1071
		10°	-0.2062	-0.2095	-0.2108	-0.2117
		15°	—	—	—	—
c_0	20°	0°	0.3256	0.2843	0.2605	0.2532
		5°	0.3253	0.2862	0.2632	0.2557
		10°	0.3244	0.2919	0.2718	0.2645
		15°	—	0.3015	0.2875	0.2816
c_N	20°	0°	0.0000	0.0000	0.0000	0.0000
		5°	0.1435	0.1471	0.1512	0.1531
		10°	0.2878	0.2931	0.2985	0.3014
		15°	—	0.4374	0.4385	0.4396
c_m	20°	0°	0.0000	0.0000	0.0000	0.0000
		5°	-0.0956	-0.0981	-0.1003	-0.1021
		10°	-0.1919	-0.1954	-0.1990	-0.2009
		15°	—	-0.2916	-0.2923	-0.2930
c_0	25°	0°	0.4733	0.4192	0.3910	0.3828
		5°	0.4727	0.4200	0.3921	0.3838
		10°	0.4705	0.4225	0.3958	0.3872
		15°	—	0.4272	0.4039	0.3954
		20°	—	0.4346	0.4183	0.4118
c_N	25°	0°	0.0000	0.0000	0.0000	0.0000
		5°	0.1333	0.1375	0.1414	0.1429
		10°	0.2653	0.2721	0.2785	0.2813
		15°	—	0.4012	0.4071	0.4103
		20°	—	0.5226	0.5229	0.5237
c_m	25°	0°	0.0000	0.0000	0.0000	0.0000
		5°	-0.0889	-0.0917	-0.0942	-0.0953
		10°	-0.1768	-0.1814	-0.1857	-0.1875
		15°	—	-0.2675	-0.2714	-0.2735
		20°	—	-0.3484	-0.3486	-0.3491

Coefficients	β_K	α	M_∞			
			2	3	5	7
c_0	30°	0°	0.6452	0.5750	0.5425	0.5335
		2°30'	0.6448	—	—	—
		5°	0.6435	0.5742	0.5416	0.5325
		10°	—	0.5719	0.5391	0.5301
		15°	—	0.5689	0.5381	0.5281
		20°	—	—	0.5398	0.5304
c_N	30°	0°	0.0000	0.0000	0.0000	0.0000
		2°30'	0.0611	—	—	—
		5°	0.1220	0.1261	0.1294	0.1306
		10°	—	0.2487	0.2549	0.2572
		15°	—	0.3648	0.3723	0.3756
		20°	—	—	0.4773	0.4803
c_m	30°	0°	0.0000	0.0000	0.0000	0.0000
		2°30'	-0.0408	—	—	—
		5°	-0.0813	-0.0840	-0.0863	-0.0871
		10°	—	-0.1658	-0.1699	-0.1715
		15°	—	-0.2432	-0.2482	-0.2504
		20°	—	—	-0.3182	-0.3202
c_0	35°	0°	0.8443	0.7490	0.7109	0.7009
		5°	—	0.7460	0.7079	0.6978
		10°	—	0.7381	0.6995	0.6890
		15°	—	—	0.6872	0.6761
		20°	—	—	—	—
c_N	35°	0°	0.0000	0.0000	0.0000	0.0000
		5°	—	0.1131	0.1159	0.1169
		10°	—	0.2230	0.2283	0.2301
		15°	—	—	0.3336	0.3363
		20°	—	—	—	—
c_m	35°	0°	0.0000	0.0000	0.0000	0.0000
		5°	—	-0.0754	-0.0773	-0.0779
		10°	—	-0.1487	-0.1522	-0.1534
		15°	—	—	-0.2224	-0.2242
		20°	—	—	—	—
c_0	40°	0°	—	0.9390	0.8923	0.8809
		2°30'	—	0.9378	—	—
		5°	—	—	0.8871	0.8755
		10°	—	—	0.8718	0.8599
		15°	—	—	—	—
c_N	40°	0°	—	0.0000	0.0000	0.0000
		2°30'	—	0.0499	—	—
		5°	—	—	0.1014	0.1021
		10°	—	—	0.1997	0.2011
		15°	—	—	—	—
c_m	40°	0°	—	0.0000	0.0000	0.0000
		2°30'	—	-0.0332	—	—
		5°	—	—	-0.0676	-0.0681
		10°	—	—	-0.1332	-0.1341
		15°	—	—	—	—
c_0	45°	0°	—	1.1480	1.0835	1.0695
		2°30'	—	—	1.0816	—
		5°	—	—	—	—
c_N	45°	0°	—	—	0.0000	—
		2°30'	—	—	0.0434	—
		5°	—	—	—	—
c_m	45°	0°	—	—	0.0000	—
		2°30'	—	—	-0.0290	—
		5°	—	—	—	—

AERODYNAMIC COEFFICIENTS IN CONTINUOUS SYSTEMS OF COORDINATES

Coefficients	β_K	α	M_∞			
			2	3	5	7
c_x	5°	0°	0.03068	0.02830	0.02326	0.02062
c_x	10°	0°	0.1046	0.0875	0.0748	0.0698
		2°30'	0.1074	0.0910	0.0792	0.0746
		5°	—	0.1019	0.0925	0.0888
		7°30'	—	—	0.1151	0.1125
		—	—	—	—	—
c_y	—	0°	0	0	0	0
		2°30'	0.0756	0.0762	0.0780	0.0795
		5°	—	0.1542	0.1570	0.1587
		7°30'	—	—	0.2378	0.2379
K	—	0°	0	0	0	0
		2°30'	0.7039	0.8373	0.9848	1.0657
		5°	—	1.5132	1.6973	1.7872
		7°30'	—	—	2.0660	2.1147
c_x	15°	0°	0.2024	0.1732	0.1542	0.1478
		5°	0.2140	0.1880	0.1713	0.1653
		10°	0.2521	0.2332	0.2221	0.2174
		—	—	—	—	—
c_y	—	0°	0	0	0	0
		5°	0.1344	0.1391	0.1442	0.1468
		10°	0.2696	0.2779	0.2820	0.2841
K	—	0°	0	0	0	0
		5°	0.6280	0.7399	0.8418	0.8881
		10°	1.0694	1.1917	1.2697	1.3068
c_x	20°	0°	0.3256	0.2843	0.2605	0.2532
		5°	0.3366	0.2979	0.2754	0.2681
		10°	0.3694	0.3384	0.3195	0.3128
		15°	—	0.4044	0.3912	0.3858
c_y	—	0°	0	0	0	0
		5°	0.1146	0.1216	0.1277	0.1302
		10°	0.2271	0.2380	0.2468	0.2509
		15°	—	0.3445	0.3491	0.3517
K	—	0°	0	0	0	0
		5°	0.3405	0.4082	0.4637	0.4856
		10°	0.6148	0.7033	0.7725	0.8021
		15°	—	0.8519	0.8924	0.9116
c_x	25°	0°	0.4733	0.4192	0.3910	0.3828
		5°	0.4825	0.4304	0.4029	0.3948
		10°	0.5094	0.4633	0.4381	0.4302
		15°	—	0.5165	0.4955	0.4881
		20°	—	0.5871	0.5719	0.5661
c_y	—	0°	0	0	0	0
		5°	0.0916	0.1004	0.1067	0.1089
		10°	0.1796	0.1946	0.2055	0.2098
		15°	—	0.2770	0.2887	0.2940
		20°	—	0.3424	0.3483	0.3513
K	—	0°	0	0	0	0
		5°	0.1898	0.2333	0.2648	0.2758
		10°	0.3526	0.4200	0.4691	0.4877
		15°	—	0.5363	0.5826	0.6023
		20°	—	0.5832	0.6090	0.6206

Coefficients	β_K	α	M_∞			
			2	3	5	7
c_x	30°	0°	0.6452	0.5750	0.5425	0.5335
		2°30'	0.6469	—	—	—
		5°	0.6517	0.5830	0.5508	0.5419
		10°	—	0.6064	0.5752	0.5667
		15°	—	0.6439	0.6161	0.6073
		20°	—	—	0.6705	0.6627
c_y	—	0°	0	0	0	0
		2°30'	0.0329	—	—	—
		5°	0.0654	0.0756	0.0817	0.0837
		10°	—	0.1456	0.1574	0.1612
		15°	—	0.2051	0.2203	0.2261
		20°	—	—	0.2639	0.2699
K	—	0°	0	0	0	0
		2°30'	0.0509	—	—	—
		5°	0.1004	0.1297	0.1483	0.1545
		10°	—	0.2401	0.2736	0.2845
		15°	—	0.3185	0.3576	0.3723
		20°	—	—	0.3936	0.4073
c_x	35°	0°	0.8443	0.7490	0.7109	0.7009
		5°	—	0.7530	0.7153	0.7053
		10°	—	0.7656	0.7285	0.7185
		15°	—	—	0.7501	0.7401
c_y	—	0°	0	0	0	0
		5°	—	0.0476	0.0538	0.0556
		10°	—	0.0914	0.1034	0.1070
		15°	—	—	0.1444	0.1499
K	—	0°	0	0	0	0
		5°	—	0.0632	0.0752	0.0788
		10°	—	0.1194	0.1419	0.1489
		15°	—	—	0.1925	0.2025
c_x	40°	0°	—	0.9390	0.8923	0.8809
		2°30'	—	0.9391	—	—
		5°	—	—	0.8926	0.8811
		10°	—	—	0.8932	0.8811
c_y	—	0°	—	0	0	0
		2°30'	—	0.0089	—	—
		5°	—	—	0.0237	0.0254
		10°	—	—	0.0453	0.0487
K	—	0°	—	0	0	0
		2°30'	—	0.009	—	—
		5°	—	—	0.0265	0.0288
		10°	—	—	0.0507	0.0552
c_x	45°	0°	—	1.1480	1.0835	1.0695
		2°30'	—	—	1.0825	—
c_y	—	0°	—	—	0	—
		2°30'	—	—	—0.0038	—
K	—	0°	—	—	0	—
		2°30'	—	—	—0.0035	—

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